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(NASA-TM-85493) CLEVELAND SPACE ODYSSEY
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**SUMMARY REPORT
ON
CLEVELAND SPACE ODYSSEY
MARCH 16-23, 1980**



**Prepared by Harrison Allen, Jr.
Chief, Public Services Office**

**National Aeronautics and Space Administration
Lewis Research Center
Cleveland, Ohio 44135**



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Summary

NASA-Lewis Research Center in conjunction with Cuyahoga Community College (CCC) and the Cleveland Public Schools sponsored an Aerospace Educational Symposium for the City of Cleveland on March 16 through 23, 1980. The symposium included personal appearances by NASA astronauts, NASA exhibits, aerospace science lecture demonstrations (Spacemobile Lectures), souvenir photos for each student attending the symposium, and talks on job opportunities in aerospace and on the benefits of the Space Program. Monday through Friday, the program was directed mainly at (public, parochial and private) student groups, each of which spend three hours on the CCC campus to participate in the symposium activities. On Saturday and Sunday, the symposium was open to the general public and consisted of the NASA exhibits, aerospace science lecture demonstrations, films, talks on the benefits of the space program, additional lectures by members of the American Institute of Aeronautics and Astronautics (AIAA), and a special tasting demonstration of "space food" meal systems.

Introduction

"Cleveland Space Odyssey" was a one-week aerospace educational symposium sponsored jointly by the NASA-Lewis Research Center, Cuyahoga Community College (CCC) and the Cleveland Public Schools. The purpose of the Space Odyssey was to provide Cleveland are (inner city) students and teachers an opportunity to learn more about aerospace science and technology and its application for improving our way of life.

"Cleveland Space Odyssey" was an exhibition and discussion symposium designed to:

- (1) explain the activities of NASA.
- (2) explore academic and employment opportunities.

- (3) demonstrate space technology advances and potential applications to our everyday lives, and
- (4) introduce teachers to programs and techniques designed to acquaint students with NASA and aerospace educational opportunities.

The Symposium

V.I.P. Briefing Reception

As an introduction to the "Cleveland Space Odyssey" a VIP Briefing Reception was conducted on March 16, 1980, in the dining area of the Cuyahoga Community College Student Center Building.

The VIP program agenda was as follows:

- | | |
|-----------|--|
| 7:00 p.m. | - Master of Ceremonies, Mr. Harrison Allen, Jr.,
NASA-Lewis Research Center |
| Welcome | - Dr. Nolan M. Ellison, Chancellor, Cuyahoga
Community College |
| Remarks | - Dr. William B. Fisher, President and Associate
Provost, Cuyahoga Community College, Metropolitan
Campus |
| Remarks | - Dr. Peter Carlin, Superintendent of Cleveland
Public Schools |
| Address | - Dr. John McCarthy, Jr., Director, NASA-Lewis
Research Center |
| Address | - Dr. Shannon Lucid, NASA astronaut (female) |
| Remarks | - Mr. Harrison Allen, Jr., NASA Lewis |
| | (1) Presentation of Landsat photographs of the
"Cleveland Area" to Cleveland Public Schools
and Cuyahoga Community College |
| | (2) Introduction of Space Odyssey Program Coordinators,
Dr. Hirenda Ghose and Mr. William Kennedy, Cuyahoga
Community College and Mr. Richard Codispoti, Cleveland
Public Schools |
| | (3) Present an overview of the Cleveland Space Odyssey
Program |

8:00 p.m. - VIP Reception -- Refreshments and tour of NASA Exhibits

8:30 p.m. - Adjournment

NOTE: VIP Briefing Reception was attended by approximately 200 persons.

The Student Program

During the week of March 17th-21st students from the Cleveland area schools participated in a three hour program on CCC downtown campus consisting of the following activities: (1) a one hour spacemobile lecture about NASA's space exploration program including a discussion of the space shuttle by a NASA astronaut on two of the days; (2) a second hour consisting of a tour of about 18 NASA exhibits; (3) informal talks with NASA engineers, scientists and technicians who answered questions and served as role models; (4) a souvenir photograph of each student; (5) participation in workshop discussions on (a) "Job Opportunities in Aerospace" and (b) "Spin-Off Benefits from the Space Program".

Two NASA astronauts participated in the Cleveland Space Odyssey. They were Dr. Shannon W. Lucid (female) and Major Guion S. Bluford (Black).

Both Dr. Lucid and Major Bluford (USAF) were selected as astronaut candidates by NASA in January, 1978. In August, 1979, they completed a one-year training and evaluation period making them eligible for assignment as a mission specialist on future space shuttle flight crews.

The symposium student program outline was as follows (see Appendix B for more detail):

Monday through Friday, March 17-21, 1980, Program for Cleveland Area School Students

Morning Program --- 3 groups

<u>Group A</u>	<u>Maximum # of Students</u>
9:00 a.m. Spacemobile Lecture (NASA Astronaut)	350
10:00 a.m. Job Opportunities in Aerospace	175
10:30 a.m. Benefits from Space	175
11:00 a.m. NASA Exhibits (included Space Souvenir photograph for each student)	350
12:00 p.m. Adjournment	
<u>Group B</u>	<u>Maximum # of Students</u>
9:00 a.m. NASA Exhibits (included Space Souvenir photographs for each student)	350
10:00 a.m. Spacemobile Lecture (NASA Astronaut)	350
11:00 a.m. Benefits from Space	175
11:30 a.m. Job Opportunities in Aerospace	175
12:00 p.m. Adjournment	
<u>Group C</u>	<u>Maximum # of Students</u>
9:00 a.m. Benefits from Space	175
9:30 a.m. Job Opportunities in Aerospace	175
10:00 a.m. NASA Exhibits (including Space Souvenir photographs for each student)	350
11:00 a.m. Spacemobile Lecture (NASA Astronaut)	350
12:00 p.m. Adjournment	

Afternoon Program --- 3 groups

<u>Group D</u>	<u>Maximum # of Students</u>
1:00 p.m. Spacemobile Lecture (NASA Astronaut)	350
2:00 p.m. Job Opportunities in Aerospace	175
2:30 p.m. Benefits from Space	175
3:00 p.m. NASA Exhibits (included Space Souvenir photographs for each student)	350
4:00 p.m. Adjournment	

<u>Group E</u>	<u>Maximum # of Students</u>
1:00 p.m. NASA Exhibits (included Space Souvenir photographs for each student)	350
2:00 p.m. Spacemobile Lecture (NASA Astronaut)	350
3:00 p.m. Benefits from Space	175
3:30 p.m. Job Opportunities in Aerospace	175
4:00 p.m. Adjournment	

<u>Group F</u>	<u>Maximum # of Students</u>
1:00 p.m. Benefits from Space	175
1:30 p.m. Job Opportunities in Aerospace	175
2:00 p.m. NASA Exhibits (included Space Souvenir photographs for each student)	350
3:00 p.m. Spacemobile Lecture (NASA Astronaut)	350
4:00 p.m. Adjournment	

General Public Program

The symposium was open to the general public on the weekend and modified according to the following agenda:

Saturday, March 22, 1980, Program for General Public

- 9:00 a.m. NASA Films
- 10:00 a.m. Spacemobile Lecture
- 11:00 a.m. Special Programs
 - A.) Meal System for the Elderly -- Harrison Allen, Jr.
(Film & Demonstration)
 - B.) Computers and Fluids Lecture -- Dr. Allan Bishop
(Member of AIAA)
- 12:00 p.m. Benefits from Space
- 1:00 p.m. Spacemobile Lecture
- 2:00 p.m. Special Programs
 - A.) Meal Systems for the Elderly -- Harrison Allen, Jr.
(Film & Demonstration)
 - B.) Energy Sources -- Robert Friedman
(Member of AIAA)
 - C.) Aircraft Engine Improvements -- Frank Hrach
(Member of AIAA)
- 3:00 p.m. Benefits from Space
- 4:00 p.m. NASA Films
NASA Exhibits
- 5:00 p.m. Close

Sunday, March 23, 1980, Program for General Public

Program was the same as for Saturday, March 22, with the following changes:

- 11:00 a.m. B.) Aircraft Engine Improvements -- Harry Bloomer
(Member of AIAA)
- 2:00 p.m. B.) Computers and Fluids Lecture -- Dr. Louis Pavinelli
(Member of AIAA)

Movies, Exhibits and Hand-Out Literature

The movies shown during the Cleveland Space Odyssey were as follows:

"Promise of Space - Communications"
"Promise of Space - Earth Resources"
"Age of Space Transportation"
"Highlights of 1979"
"The House that NASA Built"
"Pollution Solution"
"Lands for People, Lands for Bears"
"Weather Watchers"
"Flying Machines"

To supplement the symposium the following exhibits were displayed in the CCC gymnasium: (See Appendix E)

1. Moon Rock
2. Space Shuttle Display
3. (1/50 Rotating) Space Shuttle Display
4. (1/100 Rotating) Space Shuttle Display
5. Skylab (Diorama)
6. Lunar Geology Portable Display
7. NASA Lewis Goals Display
8. Health and Medical Benefits
9. Industrial Benefits
10. Home and Personal Benefits
11. Landsat Panel Set
12. Landsat Mosaic
13. Menu for Space Display
14. Portable Food Display
15. Meal System for Elderly
16. EPIC - Complex Coordinator
17. NASA Lewis Energy
18. NASA (Home & Flower Show) Exhibit

The 20,000 pieces of NASA literature that were handed out during the symposium are listed in Appendix F.

Concluding Remarks

The statistical results of the Cleveland Space Odyssey were as follows:

1. About 200 persons attended the VIP Briefing Reception on March 16, 1980
2. 7300 students attended the program from 95 schools (including elementary, junior and senior high students from public, private and parochial schools) on March 17-21, 1980, along with teachers, principals and administrators.
3. The week-end (March 22 and 23) program that was open to the general public drew an attendance of about 300.
4. Articles about the program appeared in the Cleveland Press and Plain Dealer, the Elyria Chronicle-Telegram and suburban (weekly) newspapers.
5. Astronauts and CCC and NASA persons appeared on TV talk shows and radio station interviews.

In summary, the symposium was a great success in qualitative and quantitative terms. The students responded with enthusiasm to the NASA exhibits and excellent presentations of the NASA professional staff. It is hoped that the high level of enthusiasm for this special program will be evident in the students' future classroom and educational activities.

Appendix A
Cleveland Space Odyssey Literature

ORIGINAL PAGE 18
OF POOR QUALITY

We, at CCC, are especially pleased to be hosting this event. The college has particularly fine science facilities which we'd like to have you explore. Our programs are taught by a very dedicated faculty. We enjoy having our neighbors tour our campuses and meet our faculty and staff. And we hope you may want to come back again and take advantage of some of our other educational experiences.

Join us at the Cleveland Space Odyssey!

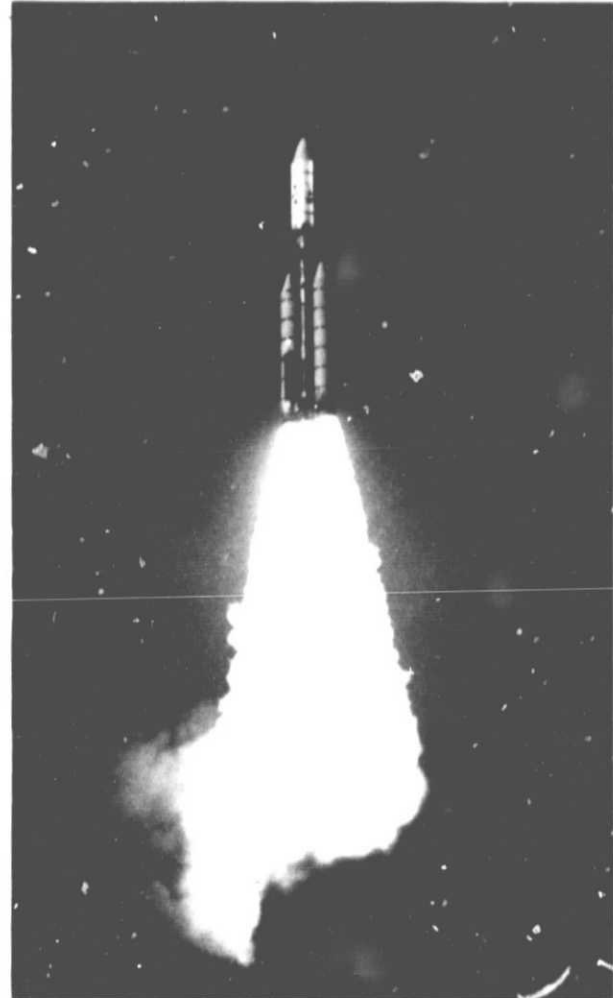
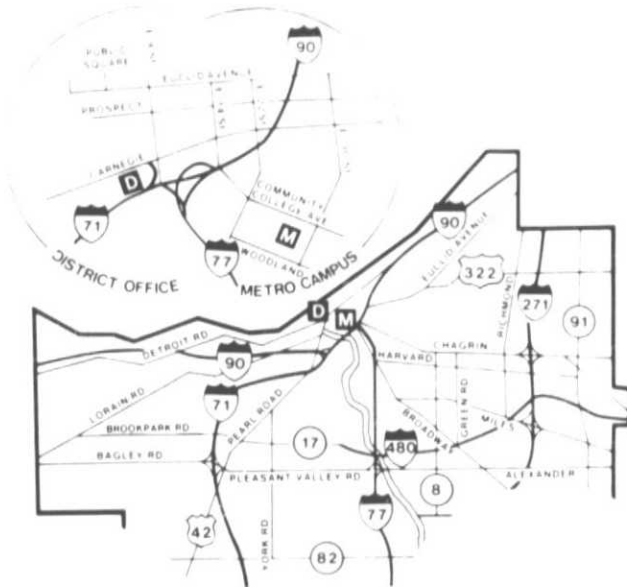
WHEN: SATURDAY AND SUNDAY, MAR. 22 AND 23

TIME: 9 A.M.-5 P.M.

**WHERE: CUYAHOGA COMMUNITY COLLEGE
METROPOLITAN CAMPUS
2900 COMMUNITY COLLEGE AVE.
DOWNTOWN CLEVELAND**

FREE!

For more information contact: Dr. Hirendra Ghose
CCC Metro
241-5966, ext. 348

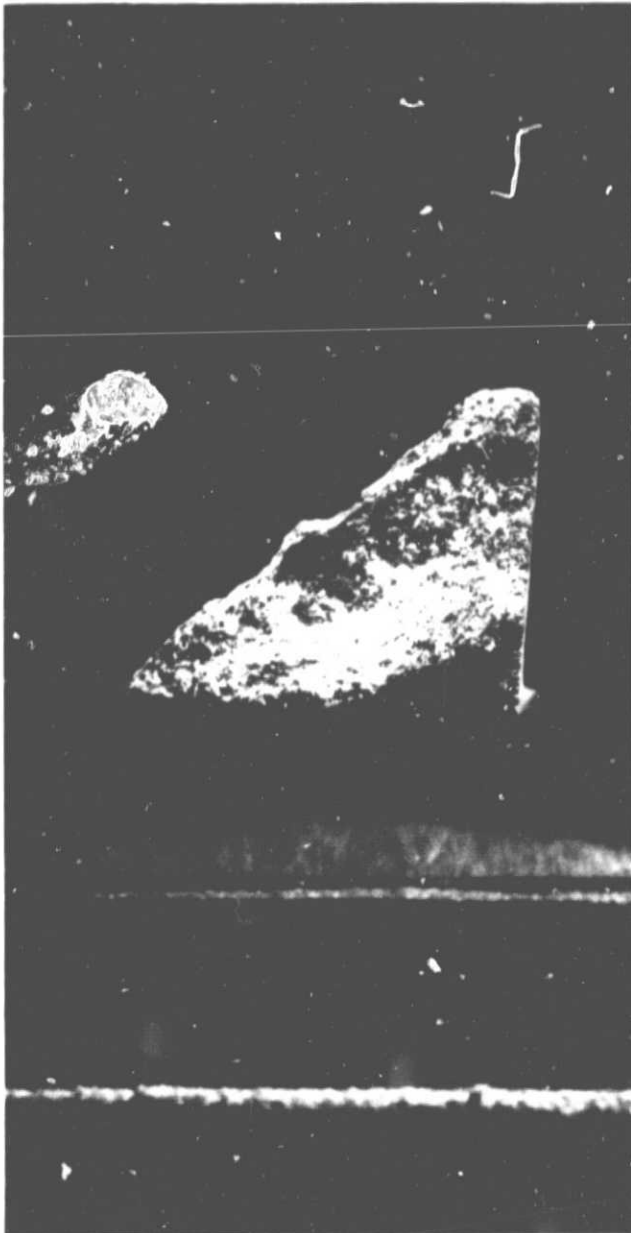


Cleveland Space Odyssey

March 22-23

FREE

It's part of your life



Ever think how you fit into the space program? Even if you've never been closer to a rocket launching than watching it on television, it's a part of your life, down to the food you eat and the clothes you wear.

The Cleveland Space Odyssey will open the world of aerospace technology and its applications in your everyday life to you and your family. Co-sponsored by Cuyahoga Community College, the National Aeronautics and Space Administration (NASA) and the Cleveland Public Schools, Space Odyssey will take you on a voyage through the latest technology through a variety of special exhibits designed by NASA specialists.

You'll be able to see a real moon rock, study models of the space shuttle and skylab, test your coordination on special equipment used by astronauts, learn how the medicine you take, the clothes you wear and the food you eat often had its origins in the space program.

In addition, Space Odyssey will be supplementing classroom learning for over 10,000 Greater Cleveland youngsters from the fifth through the 12th grades. Many of your children will be visiting the Space Odyssey during the week of Mar. 17-21 and learning about space exploration and career opportunities in this fascinating field through special lectures and demonstrations, conducted by CCC faculty and NASA experts.

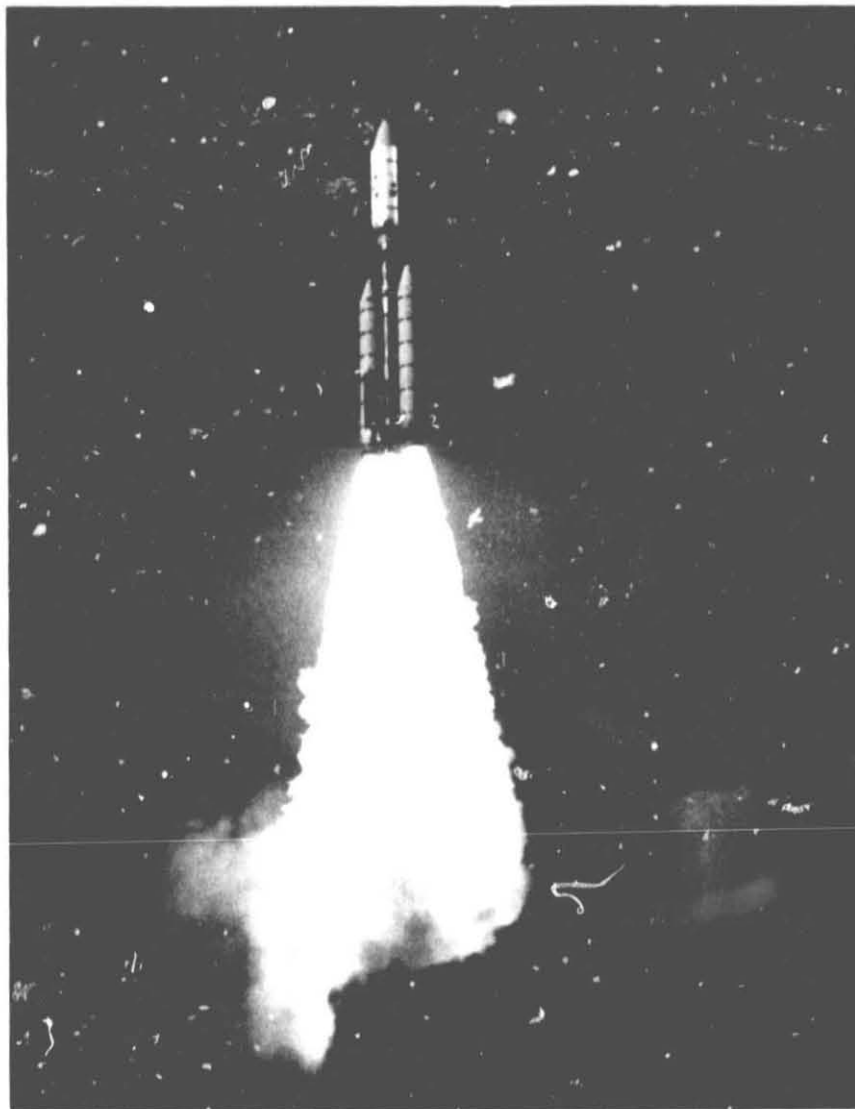
Many of their teachers, too, will be updating their knowledge in this area through a special 5-day teacher's workshop which will be held in the evenings.

Through this learning experience, it is hoped that youngsters will kindle an ongoing interest in this vital area of science and teachers will be better able to sustain that interest.

As a remembrance of their trip through the Odyssey, each youngster will have a souvenir photo taken of him/herself at the exhibit.

CCC and the Cleveland Public Schools are proud not only to be working with NASA in preparing hundreds of Greater Clevelanders for a future in aerospace technology, but in helping you learn why these advances in space are so important to your future.

ORIGINAL PAGE 13
OF POOR QUALITY



It's part of your life
CLEVELAND
SPACE ODYSSEY

March 17-21
For Students

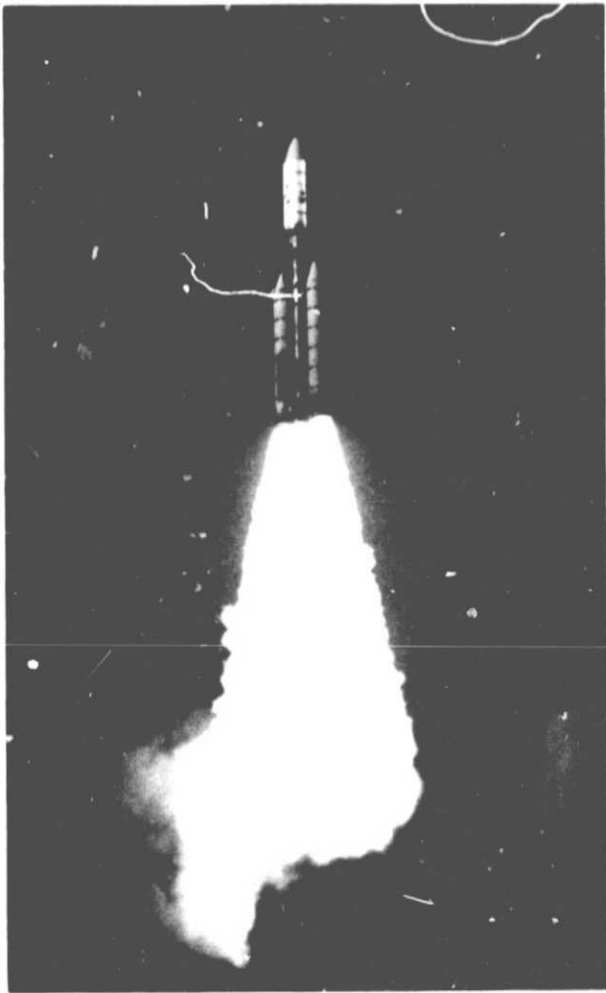
March 22-23
For General Public

Cuyahoga Community College Metro Campus

For more information, contact:
Dr. Hirendra Ghose, 241-5966, ext. 348

Invitation to VIP Briefing Reception

ORIGINAL PAGE 19
OF POOR QUALITY



You Are Cordially Invited To
A Preview
Of The
Cleveland Space Odyssey
March 16, 1980
7:00 p.m. Briefing Reception
8:00 p.m. Guided Tour and Demonstrations
Student Center Building
Cuyahoga Community College
Metropolitan Campus
2900 Community College Avenue
Cleveland, Ohio
R.S.V.P.

Appendix B

Schedule of Events for Cleveland Space Symposium

Agenda for Students Program

Monday, March 17, 1980

Morning Program for 6th Grade Cleveland School Students --- 3 Groups

<u>Group A</u>	<u># of Students</u>
----------------	----------------------

9:00 a.m.	Spacemobile Lecture	350
	Lecturer: Gregory Vogt	
	Astronaut: Shannon Lucid (female)	
10:00 a.m.	Job Opportunities in Aerospace	175
&	Speakers: 1. Loretta Shaw	
10:30 a.m.	2. Orlando Gutierrez	
	3. Oscar Gonzalez	
10:00 a.m.	Benefits from space	175
&	Speakers: 1. Annie Easley	
10:30 a.m.	2. Gary Kelm	
11:00 a.m.	NASA Exhibits	350
	Speakers for Exhibits: 1. Annie Easley	
	2. Gary Kelm	
	3. Loretta Shaw	
	4. Orlando Gutierrez	
	5. Oscar Gonzalez	
	Photographers: 1. Shelton Beasley	
	2. Jose Flores	
	3. Thomas Kirkland	
	4. James Giomini	
	5. Georgia Reynolds	
	6. Linda Norberg	
12:00 p.m.	Adjourn	

<u>Group B</u>	<u># of Students</u>
----------------	----------------------

9:00 a.m.	NASA Exhibits	350
	Speakers for Exhibits: 1. Loretta Shaw	
	2. Orlando Gutierrez	
	3. Annie Easley	
	4. Gary Kelm	
	5. Oscar Gonzalez	
	Photographers: 1. Shelton Beasley	
	2. Jose Flores	
	3. Thomas Kirkland	
	4. James Giomini	
	5. Georgia Reynolds	
	6. Linda Norberg	
10:00 a.m.	Spacemobile Lecture	350
	Lecturer: James Mosby	
	Astronaut:	

Monday Morning (Continued)

Group B (Continued)

of Students

11:00 a.m.	Benefits from Space	175
&	Speakers: 1. Jerry Kennard	
11:30 a.m.	2. Sandy Tingley	
11:00 a.m.	Job Opportunities in Aerospace	175
&	Speakers: 1. Monica Crespo	
11:30 a.m.		
12:00 p.m.	Adjourn	

Group C

of Students

9:00 a.m.	Benefits from Space	175
&	Speakers: 1. Jerry Kennard	
9:30 a.m.	2. Sandy Tingley	
9:00 a.m.	Job Opportunities in Aerospace	175
&	Speakers: 1. Monica Crespo	
9:30 a.m.		
10:00 a.m.	NASA Exhibits	350
	Speakers for Exhibits: 1. Julian Earls	
	2. Monica Crespo	
	3. Jerry Kennard	
	4. Sandy Tingley	
	Astronaut: Shannon Lucid (female)	
	Photographers: 1. Shelton Beasley	
	2. Jose Flores	
	3. Thomas Kirkland	
	4. James Giomini	
	5. Georgia Reynolds	
	6. Linda Norberg	
11:00 a.m.	Spacemobile Lecture	350
	Lecturer: Gregory Vogt	
	Astronaut: Shannon Lucid (female)	
12:00 p.m.	Adjourn	

Monday Afternoon

Afternoon Program for High School Students & General Public --- 3 Groups

<u>Group D</u>	<u># of Students</u>
1:00 p.m. Spacemobile Lecture Lecturer: James Mosby Astronaut:	350
2:00 p.m. Job Opportunities in Aerospace & Speakers: 1. Monica Crespo 2:30 p.m.	175
2:00 p.m. Benefits from Space & Speakers: 1. Jerry Kennard 2:30 p.m. 2. Sandy Tingley	175
3:00 p.m. NASA Exhibits Speakers for Exhibits: 1. Monica Crespo 2. Jerry Kennard 3. Sandy Tingley Astronaut: Shannon Lucid (female) Photographers: 1. Shelton Beasley 2. Jose Flores 3. Thomas Kirkland 4. James Giomini 5. Georgia Reynolds 6. Linda Norberg	350
4:00 p.m. Adjourn	

<u>Group E</u>	<u># of Students</u>
1:00 p.m. NASA Exhibits Speakers for Exhibits: 1. Monica Crespo 2. Jerry Kennard 3. Sandy Tingley Astronaut: Shannon Lucid (female) Photographers: 1. Shelton Beasley 2. Jose Flores 3. Thomas Kirkland 4. James Giomini 5. Georgia Reynolds 6. Linda Norberg	350
2:00 p.m. Spacemobile Lecture Lecturer: Gregory Vogt Astronaut:	350
3:00 p.m. Benefits from Space & Speakers: 1. Annie Easley 3:30 p.m. 2. Gary Kelm	175

Monday Afternoon (Continued)

Group E (Continued)

of Students

3:00 p.m.	Job Opportunities in Aerospace	175
&	Speakers: 1. Loretta Shaw	
3:30 p.m.	2. Orlando Gutierrez	
	3. Oscar Gonzalez	

Group F

of Students

1:00 p.m.	Benefits from Space	175
&	Speakers: 1. Annie Easley	
1:30 p.m.	2. Gary Kelm	

1:00 p.m.	Job Opportunities in Aerospace	175
&	Speakers: 1. Loretta Shaw	
1:30 p.m.	2. Orlando Gutierrez	
	3. Oscar Gonzalez	

2:00 p.m.	NASA Exhibits	350
-----------	---------------	-----

Speakers for Exhibits:	1. Annie Easley
	2. Gary Kelm
	3. Loretta Shaw
	4. Orlando Gutierrez
	5. Oscar Gonzalez
Astronaut:	Shannon Lucid (female)

Photographers:	1. Shelton Beasley
	2. Jose Flores
	3. Thomas Kirkland
	4. James Giomini
	5. Georgia Reynolds
	6. Linda Norberg

3:00 p.m.	Spacemobile Lecture	350
	Lecturer: James Mosby	
	Astronaut:	

4:00 p.m.	Adjourn	
-----------	---------	--

Tuesday, March 18, 1980

Morning Program for 6th Grade Cleveland School Students --- 3 Groups

<u>Group A</u>	<u># of Students</u>
9:00 a.m. Spacemobile Lecture Lecturer: Gregory Vogt Astronaut:	350
10:00 a.m. Job Opportunities in Aerospace & Speakers: 1. Olga Sanabria 10:30 a.m. 2. Rafael Sanabria	175
10:00 a.m. Benefits from Space & Speakers: 1. Mickey Seavers 10:30 a.m. 2. Louis Revnyak	175
11:00 a.m. NASA Exhibits Speakers for Exhibits: 1. Olga Sanabria 2. Rafael Sanabria 3. Mickey Seavers 4. Louis Revnyak Photographers: 1. Jimmy Simek 2. Lois St. Clair 3. Mack Thomas 4. Rosa Pabon 5. Willie Fleming 6. Marsha Commerford	350
12:00 p.m. Adjourn	

<u>Group B</u>	<u># of Students</u>
9:00 a.m. NASA Exhibits Speakers for Exhibits: 1. Olga Sanabria 2. Rafael Sanabria 3. Mickey Seavers 4. Louis Revnyak Photographers: 1. Jimmy Simek 2. Lois St. Clair 3. Mack Thomas 4. Rosa Pabon 5. Willie Fleming 6. Marsha Commerford	350
10:00 a.m. Spacemobile Lecture Lecturer: James Mosby Astronaut:	350

Tuesday Morning (Continued)

Group B (Continued)

of Students

11:00 a.m. Benefits from Space
 & Speaker: 1. Marshall Dietrich
11:30 a.m.

11:00 a.m. Job Opportunities in Aerospace
 & Speaker: 1. Fred Simon
11:30 a.m.

12:00 p.m. Adjourn

175

175

Group C

of Students

9:00 a.m. Benefits from Space
 & Speaker: 1. Marshall Dietrich
9:30 a.m.

9:00 a.m. Job Opportunities in Aerospace
 & Speaker: 1. Fred Simon
9:30 a.m.

10:00 a.m. NASA Exhibits
 Speakers for Exhibits: 1. Marshall Dietrich
 2. Fred Simon

 Photographers: 1. Jimmy Simek
 2. Lois St. Clair
 3. Mack Thomas
 4. Rosa Pabon
 5. Willie Fleming
 6. Marsha Commerford

11:00 a.m. Spacemobile Lecture
 Lecturer: Gregory Vogt
 Astronaut:

12:00 p.m. Adjourn

175

175

350

350

Tuesday Afternoon

Afternoon Program for High School Students and General Public --- 3 Groups

<u>Group D</u>	<u># of Students</u>
1:00 p.m. Spacemobile Lecture Lecturer: James Mosby Astronaut:	350
2:00 p.m. Job Opportunities in Aerospace & Speaker: 1. Fred Simon	175
2:30 p.m.	
2:00 p.m. Benefits from Space & Speaker: 1. Marshall Dietrich	175
2:30 p.m.	
3:00 p.m. NASA Exhibits Speakers for Exhibits: 1. Marshall Dietrich 2. Fred Simon	350
Photographers:	1. Jimmy Simek 2. Lois St. Clair 3. Mack Thomas 4. Rosa Pabon 5. Willie Fleming 6. Marsha Commerford
4:00 p.m. Adjourn	

<u>Group E</u>	<u># of Students</u>
1:00 p.m. NASA Exhibits Speakers for Exhibits: 1. Marshall Dietrich 2. Fred Simon	350
Photographers:	1. Jimmy Simek 2. Louis St. Clair 3. Mack Thomas 4. Rosa Pabon 5. Willie Fleming 6. Marsha Commerford
2:00 p.m. Spacemobile Lecture Lecturer: Gregory Vogt	350
3:00 p.m. Benefits from Space & Speakers: 1. Mickey Seaver	175
3:30 p.m. 2. Louis Revnyak	

Tuesday Afternoon (Continued)

<u>Group E (Continued)</u>	<u># of Students</u>
3:00 p.m. Job Opportunities in Aerospace & Speakers: 1. Olga Sanabria	175
3:30 p.m. 2. Rafael Sanabria	
4:00 p.m. Adjourn	
 <u>Group F</u>	 <u># of Students</u>
1:00 p.m. Benefits from Space	175
& Speakers: 1. Mickey Seaver	
1:30 p.m. 2. Louis Revnyak	
1:00 p.m. Job Opportunities in Aerospace	175
& Speakers: 1. Olga Sanabria	
1:30 p.m. 2. Rafael Sanabria	
2:00 p.m. NASA Exhibits	350
Speakers for Exhibits: 1. Mickey Seaver	
2. Louis Revnyak	
3. Olga Sanabria	
4. Rafael Sanabria	
Photographers: 1. Jimmy Simek	
2. Louis St. Clair	
3. Mack Thomas	
4. Rosa Pabon	
5. Willie Fleming	
6. Marsha Commerford	
3:00 p.m. Spacemobile Lecture	350
Lecturer: James Mosby	
Astronaut:	
4:00 p.m. Adjourn	

Wednesday, March 19, 1980

Morning Program for 6th Grade Cleveland School Students --- 3 Groups

<u>Group A</u>	<u># of Students</u>
9:00 a.m. Spacemobile Lecture Lecturer: Gregory Vogt Astronaut: Shannon Lucid (female)	350
10:00 a.m. Job Opportunities in Aerospace Speakers: 1. Loretta Shaw	175
10:30 a.m. 2. Orlando Gutierrez 3. Oscar Gonzalez	
10:00 a.m. Benefits from space Speakers: 1. Annie Easley	175
10:30 a.m. 2. Gary Kelm	
11:00 a.m. NASA Exhibits Speakers for Exhibits: 1. Annie Easley 2. Gary Kelm 3. Loretta Shaw 4. Orlando Gutierrez 5. Oscar Gonzalez	350
Photographers: 1. Shelton Beasley 2. Jose Flores 3. Thomas Kirkland 4. James Giomini 5. Georgia Reynolds 6. Linda Norberg	
12:00 p.m. Adjourn	

<u>Group B</u>	<u># of Students</u>
9:00 a.m. NASA Exhibits Speakers for Exhibits: 1. Loretta Shaw 2. Orlando Gutierrez 3. Annie Easley 4. Gary Kelm 5. Oscar Gonzalez	350
Photographers: 1. Shelton Beasley 2. Jose Flores 3. Thomas Kirkland 4. James Giomini 5. Georgia Reynolds 6. Linda Norberg	
10:00 a.m. Spacemobile Lecture Lecturer: James Mosby Astronaut:	350

Wednesday Morning (Continued)

Group B (Continued)

of Students

11:00 a.m.	Benefits from Space	175
&	Speakers: 1. Jerry Kennard	
11:30 a.m.	2. Sandy Tingley	
11:00 a.m.	Job Opportunities in Aerospace	175
&	Speakers: 1. Monica Crespo	
11:30 a.m.		
12:00 p.m.	Adjourn	

Group C

of Students

9:00 a.m.	Benefits from Space	175
&	Speakers: 1. Jerry Kennard	
9:30 a.m.	2. Sandy Tingley	
9:00 a.m.	Job Opportunities in Aerospace	175
&	Speakers: 1. Monica Crespo	
9:30 a.m.		
10:00 a.m.	NASA Exhibits	350
	Speakers for Exhibits: 1. Julian Earls	
	2. Monica Crespo	
	3. Jerry Kennard	
	4. Sandy Tingley	
	Astronaut: Shannon Lucid (female)	
	Photographers: 1. Shelton Beasley	
	2. Jose Flores	
	3. Thomas Kirkland	
	4. James Giomini	
	5. Georgia Keynolds	
	6. Linda Norberg	
11:00 a.m.	Spacemobile Lecture	350
	Lecturer: Gregory Vogt	
	Astronaut: Shannon Lucid (female)	
12:00 p.m.	Adjourn	

Wednesday Afternoon

Afternoon Program for High School Students & General Public --- 3 Groups

<u>Group D</u>	<u># of Students</u>
1:00 p.m. Spacemobile Lecture Lecturer: James Mosby Astronaut:	350
2:00 p.m. Job Opportunities in Aerospace & Speakers: 1. Monica Crespo 2:30 p.m.	175
2:00 p.m. Benefits from Space & Speakers: 1. Jerry Kennard 2:30 p.m. 2. Sandy Tingley	175
3:00 p.m. NASA Exhibits Speakers for Exhibits: 1. Monica Crespo 2. Jerry Kennard 3. Sandy Tingley Astronaut: Shannon Lucid (female) Photographers: 1. Shelton Beasley 2. Jose Flores 3. Thomas Kirkland 4. James Giomini 5. Georgia Reynolds 6. Linda Norberg	350
4:00 p.m. Adjourn	

<u>Group E</u>	<u># of Students</u>
1:00 p.m. NASA Exhibits Speakers for Exhibits: 1. Monica Crespo 2. Jerry Kennard 3. Sandy Tingley Astronaut: Shannon Lucid (female) Photographers: 1. Shelton Beasley 2. Jose Flores 3. Thomas Kirkland 4. James Giomini 5. Georgia Reynolds 6. Linda Norberg	350
2:00 p.m. Spacemobile Lecture Lecturer: Gregory Vogt Astronaut:	350
3:00 p.m. Benefits from Space & Speakers: 1. Annieasley 3:30 p.m. 2. Gary Kelm	175

Wednesday Afternoon (Continued)

Group E (Continued) # of Students

3:00 p.m.	&	Job Opportunities in Aerospace	175
		Speakers: 1. Loretta Shaw	
3:30 p.m.		2. Orlando Gutierrez	
		3. Oscar Gonzalez	

Group F # of Students

1:00 p.m.	&	Benefits from Space	175
		Speakers: 1. Annie Easley	
1:30 p.m.		2. Gary Kelm	

1:00 p.m.	&	Job Opportunities in Aerospace	175
		Speakers: 1. Loretta Shaw	
1:30 p.m.		2. Orlando Gutierrez	
		3. Oscar Gonzalez	

2:00 p.m.		NASA Exhibits	350
		Speakers for Exhibits: 1. Annie Easley	
		2. Gary Kelm	
		3. Loretta Shaw	
		4. Orlando Gutierrez	
		5. Oscar Gonzalez	
		Astronaut: Shannon Lucid (female)	

Photographers:	1. Shelton Beasley
	2. Jose Flores
	3. Thomas Kirkland
	4. James Giomini
	5. Georgia Reynolds
	6. Linda Norberg

3:00 p.m.		Spacemobile Lecture	350
		Lecturer: James Mosby	
		Astronaut:	

4:00 p.m.		Adjourn
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Thursday, March 20, 1980

Morning Program for 6th Grade Cleveland School Students --- 3 Groups

<u>Group A</u>	<u># of Students</u>
9:00 a.m. Spacemobile Lecture Lecturer: Gregory Vogt Astronaut:	350
10:00 a.m. Job Opportunities in Aerospace & Speakers: 1. Olga Sanabria 10:30 a.m. 2. Rafael Sanabria	175
10:00 a.m. Benefits from Space & Speakers: 1. Mickey Seavers 10:30 a.m. 2. Louis Revnyak	175
11:00 a.m. NASA Exhibits Speakers for Exhibits: 1. Olga Sanabria 2. Rafael Sanabria 3. Mickey Seavers 4. Louis Revnyak Photographers: 1. Jimmy Simek 2. Lois St. Clair 3. Mack Thomas 4. Rosa Pabon 5. Willie Fleming 6. Marsha Commerford	350
12:00 p.m. Adjourn	

<u>Group B</u>	<u># of Students</u>
9:00 a.m. NASA Exhibits Speakers for Exhibits: 1. Olga Sanabria 2. Rafael Sanabria 3. Mickey Seavers 4. Louis Revnyak Photographers: 1. Jimmy Simek 2. Lois St. Clair 3. Mack Thomas 4. Rosa Pabon 5. Willie Fleming 6. Marsha Commerford	350
10:00 a.m. Spacemobile Lecture Lecturer: James Mosby Astronaut:	350

Thursday Morning (Continued)

<u>Group B (Continued)</u>	<u># of Students</u>
11:00 a.m. Benefits from Space & Speaker: 1. Marshall Dietrich 11:30 a.m.	175
11:00 a.m. Job Opportunities in Aerospace & Speaker: 1. Fred Simon 11:30 a.m.	175
12:00 p.m. Adjourn	

<u>Group C</u>	<u># of Students</u>
9:00 a.m. Benefits from Space & Speaker: 1. Marshall Dietrich 9:30 a.m.	175
9:00 a.m. Job Opportunities in Aerospace & Speaker: 1. Fred Simon 9:30 a.m.	175
10:00 a.m. NASA Exhibits Speakers for Exhibits: 1. Marshall Dietrich 2. Fred Simon Photographers: 1. Jimmy Simek 2. Lois St. Clair 3. Mack Thomas 4. Rosa Pabon 5. Willie Fleming 6. Marsha Commerford	350
11:00 a.m. Spacemobile Lecture Lecturer: Gregory Vogt Astronaut:	350
12:00 p.m. Adjourn	

Thursday Afternoon

Afternoon Program for High School Students and General Public --- 3 Groups

<u>Group D</u>	<u># of Students</u>
1:00 p.m. Spacemobile Lecture Lecturer: James Mosby Astronaut:	350
2:00 p.m. Job Opportunities in Aerospace & Speaker: 1. Fred Simon 2:30 p.m.	175
2:00 p.m. Benefits from Space & Speaker: 1. Marshall Dietrich 2:30 p.m.	175
3:00 p.m. NASA Exhibits Speakers for Exhibits: 1. Marshall Dietrich 2. Fred Simon Photographers: 1. Jimmy Simek 2. Lois St. Clair 3. Mack Thomas 4. Rosa Pabon 5. Willie Fleming 6. Marsha Commerford	350
4:00 p.m. Adjourn	

<u>Group E</u>	<u># of Students</u>
1:00 p.m. NASA Exhibits Speakers for Exhibits: 1. Marshall Dietrich 2. Fred Simon Photographers: 1. Jimmy Simek 2. Louis St. Clair 3. Mack Thomas 4. Rosa Pabon 5. Willie Fleming 6. Marsha Commerford	350
2:00 p.m. Spacemobile Lecture Lecturer: Gregory Vogt	350
3:00 p.m. Benefits from Space & Speakers: 1. Mickey Seaver 3:30 p.m. 2. Louis Revnyak	175

Thursday Afternoon (Continued)

Group E (Continued)

of Students

3:00 p.m.	Job Opportunities in Aerospace	175
&	Speakers: 1. Olga Sanabria	
3:30 p.m.	2. Rafael Sanabria	
4:00 p.m.	Adjourn	

Group F

of Students

1:00 p.m.	Benefits from Space	175
&	Speakers: 1. Mickey Seaver	
1:30 p.m.	2. Louis Revnyak	
1:00 p.m.	Job Opportunities in Aerospace	175
&	Speakers: 1. Olga Sanabria	
1:30 p.m.	2. Rafael Sanabria	
2:00 p.m.	NASA Exhibits	350
	Speakers for Exhibits: 1. Mickey Seaver	
	2. Louis Revnyak	
	3. Olga Sanabria	
	4. Rafael Sanabria	
	Photographers: 1. Jimmy Simek	
	2. Louis St. Clair	
	3. Mack Thomas	
	4. Rosa Pabon	
	5. Willie Fleming	
	6. Marsha Commerford	
3:00 p.m.	Spacemobile Lecture	350
	Lecturer: James Mosby	
	Astronaut:	
4:00 p.m.	Adjourn	

Friday, March 21, 1980

Morning Program for 6th Grade Cleveland School Students --- 3 Groups

<u>Group A</u>	<u># of Students</u>
9:00 a.m. Spacemobile Lecture Lecturer: Gregory Vogt Astronaut: Shannon Lucid (female)	350
10:00 a.m. Job Opportunities in Aerospace & Speakers: 1. Loretta Shaw	175
10:30 a.m. 2. Orlando Gutierrez 3. Oscar Gonzalez	
10:00 a.m. Benefits from space & Speakers: 1. Annie Easley	175
10:30 a.m. 2. Gary Kelm	
11:00 a.m. NASA Exhibits Speakers for Exhibits: 1. Annie Easley 2. Gary Kelm 3. Loretta Shaw 4. Orlando Gutierrez 5. Oscar Gonzalez	350
Photographers: 1. Shelton Beasley 2. Jose Flores 3. Thomas Kirkland 4. James Giomini 5. Georgia Reynolds 6. Linda Norberg	
12:00 p.m. Adjourn	

<u>Group B</u>	<u># of Students</u>
9:00 a.m. NASA Exhibits Speakers for Exhibits: 1. Loretta Shaw 2. Orlando Gutierrez 3. Annie Easley 4. Gary Kelm 5. Oscar Gonzalez	350
Photographers: 1. Shelton Beasley 2. Jose Flores 3. Thomas Kirkland 4. James Giomini 5. Georgia Reynolds 6. Linda Norberg	
10:00 a.m. Spacemobile Lecture Lecturer: James Mosby Astronaut:	350

Friday Morning (Continued)

<u>Group B (Continued)</u>	<u># of Students</u>
11:00 a.m. Benefits from Space & Speakers: 1. Jerry Kennard	175
11:30 a.m. 2. Sandy Tingley	
11:00 a.m. Job Opportunities in Aerospace & Speakers: 1. Monica Crespo	175
11:30 a.m.	
12:00 p.m. Adjourn	

<u>Group C</u>	<u># of Students</u>
9:00 a.m. Benefits from Space & Speakers: 1. Jerry Kennard	175
9:30 a.m. 2. Sandy Tingley	
9:00 a.m. Job Opportunities in Aerospace & Speakers: 1. Monica Crespo	175
9:30 a.m.	
10:00 a.m. NASA Exhibits Speakers for Exhibits: 1. Julian Earls 2. Monica Crespo 3. Jerry Kennard 4. Sandy Tingley Astronaut: Shannon Lucid (female)	350
Photographers: 1. Shelton Beasley 2. Jose Flores 3. Thomas Kirkland 4. James Giomini 5. Georgia Reynolds 6. Linda Norberg	
11:00 a.m. Spacemobile Lecture Lecturer: Gregory Vogt Astronaut: Shannon Lucid (female)	350
12:00 p.m. Adjourn	

Friday Afternoon

Afternoon Program for High School Students & General Public --- 3 Groups

<u>Group D</u>	<u># of Students</u>
1:00 p.m. Spacemobile Lecture Lecturer: James Mosby Astronaut:	350
2:00 p.m. Job Opportunities in Aerospace & Speakers: 1. Monica Crespo 2:30 p.m.	175
2:00 p.m. Benefits from Space & Speakers: 1. Jerry Kennard 2:30 p.m. 2. Sandy Tingley	175
3:00 p.m. NASA Exhibits Speakers for Exhibits: 1. Monica Crespo 2. Jerry Kennard 3. Sandy Tingley Astronaut: Shannon Lucid (female) Photographers: 1. Shelton Beasley 2. Jose Flores 3. Thomas Kirkland 4. James Giomini 5. Georgia Reynolds 6. Linda Norberg	350
4:00 p.m. Adjourn	

<u>Group E</u>	<u># of Students</u>
1:00 p.m. NASA Exhibits Speakers for Exhibits: 1. Monica Crespo 2. Jerry Kennard 3. Sandy Tingley Astronaut: Shannon Lucid (female) Photographers: 1. Shelton Beasley 2. Jose Flores 3. Thomas Kirkland 4. James Giomini 5. Georgia Reynolds 6. Linda Norberg	350
2:00 p.m. Spacemobile Lecture Lecturer: Gregory Vogt Astronaut:	350
3:00 p.m. Benefits from Space & Speakers: 1. Annie Easley 3:30 p.m. 2. Gary Kelm	175

Friday Afternoon (Continued)

<u>Group E (Continued)</u>		<u># of Students</u>
3:00 p.m.	Job Opportunities in Aerospace	175
&	Speakers: 1. Loretta Shaw	
3:30 p.m.	2. Orlando Gutierrez	
	3. Oscar Gonzalez	
<u>Group F</u>		<u># of Students</u>
1:00 p.m.	Benefits from Space	175
&	Speakers: 1. Annie Easley	
1:30 p.m.	2. Gary Kelm	
1:00 p.m.	Job Opportunities in Aerospace	175
&	Speakers: 1. Loretta Shaw	
1:30 p.m.	2. Orlando Gutierrez	
	3. Oscar Gonzalez	
2:00 p.m.	NASA Exhibits	350
	Speakers for Exhibits: 1. Annie Easley	
	2. Gary Kelm	
	3. Loretta Shaw	
	4. Orlando Gutierrez	
	5. Oscar Gonzalez	
	<u>Astronaut: Shannon Lucid (female)</u>	
	Photographers: 1. Shelton Beasley	
	2. Jose Flores	
	3. Thomas Kirkland	
	4. James Giomini	
	5. Georgia Reynolds	
	6. Linda Norberg	
3:00 p.m.	Spacemobile Lecture	350
	Lecturer: James Mosby	
	Astronaut:	
4:00 p.m.	Adjourn	

Saturday, March 22, 1980

Program for the General Public

9:00 a.m. NASA Films

NASA Exhibits

Speakers for Exhibits: 1. Jerry Kennard
2. Annie Easley
3. Orlando Gutierrez
4. Del Zatroch
5. Shelton Beasley
6. Nancy Iorio

10:00 a.m. Spacemobile Lecture
Lecturer: James Mosby

11:00 a.m. Special Programs
A.) Meal Systems for the Elderly - Film & Demonstration
Speaker: Harrison Allen, Jr.
B.) Computers and Fluids Lecture
Speaker: Dr. Allan Bishop
(Member of AIAA)

12:00 p.m. Benefits from Space
Speaker: Jerry Kennard

1:00 p.m. Spacemobile Lecture
Lecturer: James Mosby

2:00 p.m. Special Programs
A.) Meal Systems for the Elderly - Film & Demonstration
Speaker: Harrison Allen, Jr.
B.) Energy Sources
Speaker: Robert Friedman
(Member of AIAA)
C.) Aircraft Engine Improvements
Speaker: Frank Hrach
(Member of AIAA)

3:00 p.m. Benefits from Space
Speaker: Jerry Kennard

4:00 p.m. NASA Films

NASA Exhibits

Speakers for Exhibits: 1. Jerry Kennard
2. Annie Easley
3. Orlando Gutierrez
4. Del Zatroch
5. Shelton Beasley
6. Nancy Iorio

5:00 p.m. Close

Sunday, March 23, 1980

Program for the General Public

9:00 a.m. NASA Films

NASA Exhibits

Speakers for Exhibits: 1. Annie Easley
2. Jean Bertoia
3. Thomas Kirland
4. Olga Sanabria
5. Rafael Sanabria
6. Marshall Dietrich

10:00 a.m. Spacemobile Lecture
Lecturer: Gregory Vogt

11:00 a.m. Special Programs
A.) Meal Systems for the Elderly - Film & Demonstration
Speaker: Harrison Allen, Jr.
B.) Aircraft Engine Improvements
Speaker: Harry Bloomer
(Member of AIAA)

12:00 p.m. Benefits from Space
Speaker: Annie Easley

1:00 p.m. Spacemobile Lecture
Lecturer: Gregory Vogt

2:00 p.m. Special Programs
A.) Meal Systems for the Elderly - Film & Demonstration
Speaker: Harrison Allen, Jr.
B.) Computers and Fluids Lecture
Speaker: Dr. Louis Povinelli
(Member of AIAA)

3:00 p.m. Benefits from Space
Speaker: Annie Easley

4:00 p.m. NASA Films

NASA Exhibits

Speakers for Exhibits: 1. Annie Easley
2. Jean Bertoia
3. Thomas Kirkland
4. Olga Sanabria
5. Rafael Sanabria
6. Marshall Dietrich

5:00 p.m. Close

Appendix C

Photographs of VIP Briefing Reception



Dr. Peter Carlin
Superintendent
Cleveland Public Schools

Dr. John McCarthy, Jr.
Director
NASA-Lewis Research Center

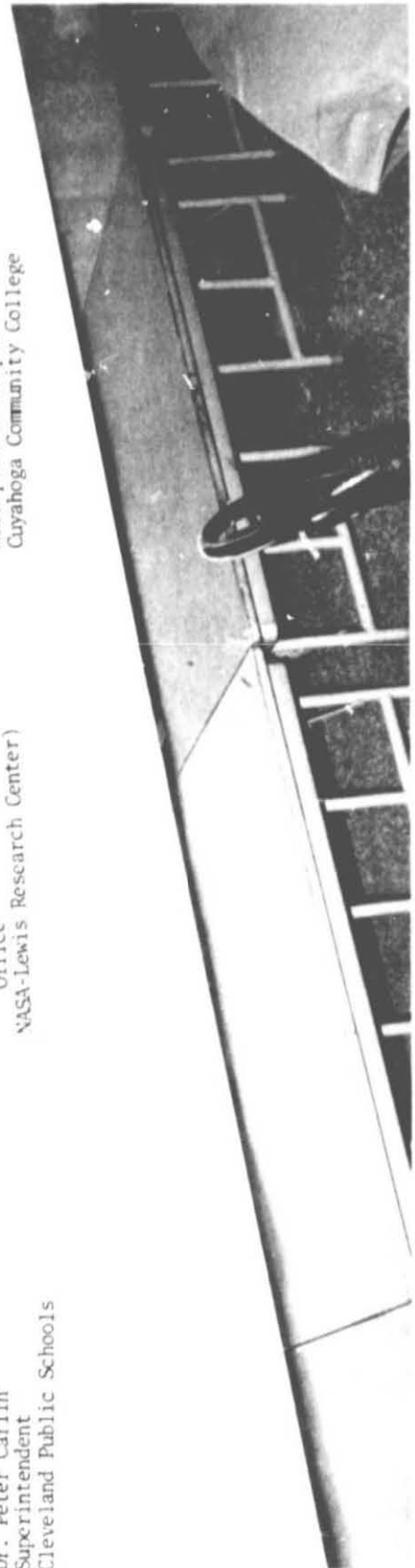
Harrison Allen, Jr.
Manager,
"Cleveland Space
Odyssey Program"
Office
NASA-Lewis Research Center

Dr. Nolan M. Ellison
Chancellor,
Cuyahoga Community College

William Kennedy
Program Coordinator of
Cleveland Space Odyssey
at Cuyahoga Community
College

Dr. William B. Fisher
President - Associate Provost Cuyahoga Community College
Metropolitan Campus
Cuyahoga Community College

Dr. Hirenda Ghose
Program Coordinator of
Cleveland Space Odyssey at
Cuyahoga Community College



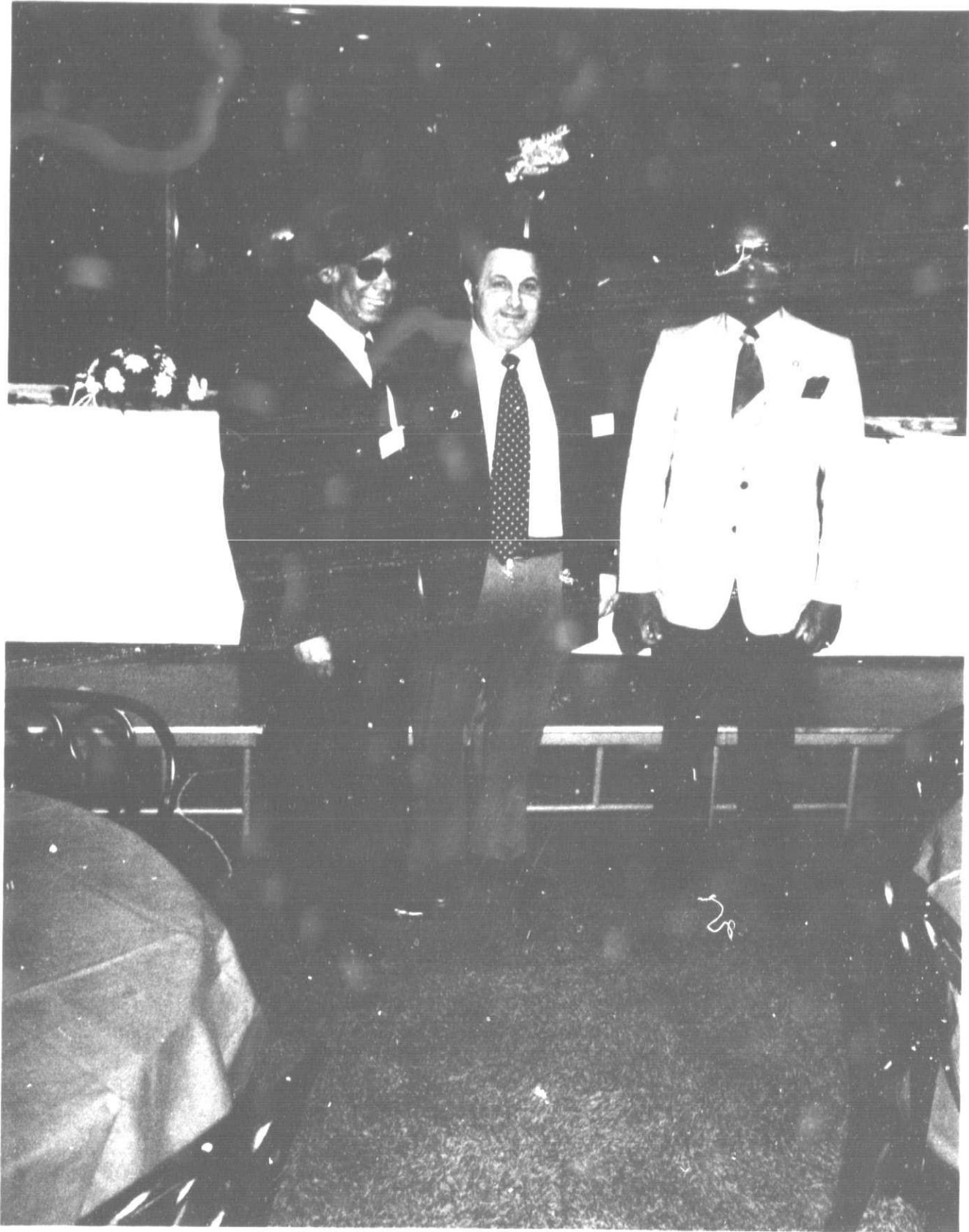
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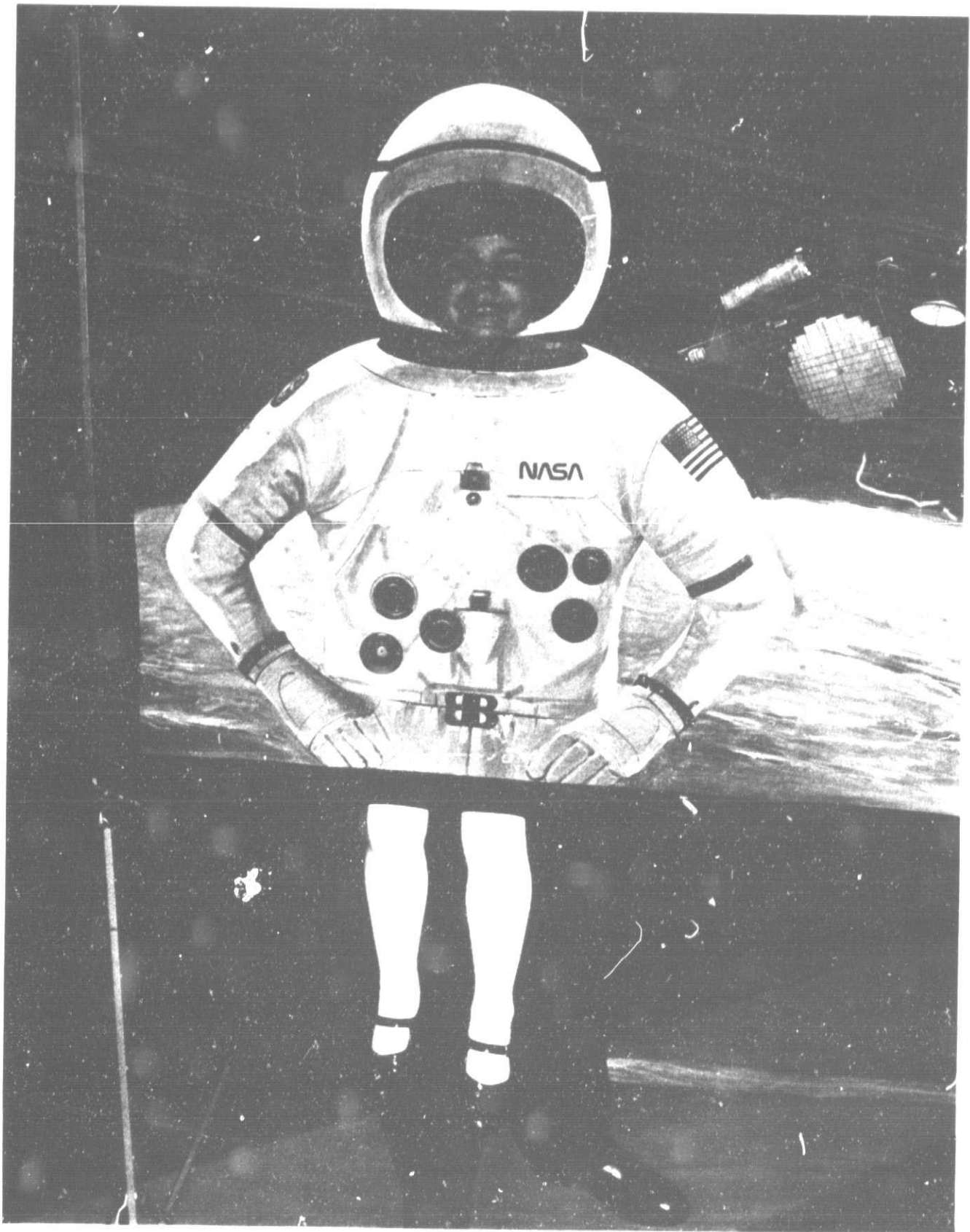
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Appendix D

Photographs and Biographies of NASA Astronauts

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Biographical Data



Lyndon B. Johnson Space Center
Houston, Texas 77058

NAME: Shannon W. Lucid (PhD)
Astronaut Candidate (Mission Specialist)

BIRTHPLACE AND DATE: Born January 14, 1943, in Shanghai, China, but considers Bethany, Oklahoma, to be her hometown. Her parents, Mr. and Mrs. Joseph O. Wells, reside in Bethany.

PHYSICAL DESCRIPTION: Brown hair; blue eyes; height: 5 feet 11 inches; weight: 150 pounds.

EDUCATION: Graduated from Bethany High School, Bethany, Oklahoma, in 1960; received a bachelor of science degree in Chemistry from the University of Oklahoma in 1963, and a master of science and doctor of philosophy degrees in Biochemistry from the University of Oklahoma in 1970 and 1973, respectively.

MARITAL STATUS: Married to Michael F. Lucid of Indianapolis, Indiana.

CHILDREN: Kawai Dawn, September 19, 1968; Shandara Michelle, January 13, 1970; and Michael Kermit, August 22, 1975.

RECREATIONAL INTERESTS: She enjoys flying, camping, hiking, and reading.

ORGANIZATIONS: Member of the Aircraft Owners and Pilots Association.

EXPERIENCE: Dr. Lucid's experience includes a variety of academic assignments such as teaching assistant at the University of Oklahoma's Department of Chemistry from 1963 to 1964; senior laboratory technician at the Oklahoma Medical Research Foundation from 1964-1966; chemist at Kerr-McGee, Oklahoma City, Oklahoma, 1966-1968; graduate assistant at the University of Oklahoma Health Science Center's Department of Biochemistry and Molecular Biology from 1969 to 1973; and research associate with the Oklahoma Medical Research Foundation in Oklahoma City, Oklahoma, from 1974 until her selection to the astronaut candidate training program.

Dr. Lucid has logged 1,500 hours of commercial, instrument, multi-engine flying time.

CURRENT ASSIGNMENT: Dr. Lucid was selected as an astronaut candidate by NASA in January 1978 and, in July, commenced a 2-year training and evaluation program to qualify for subsequent assignment as a mission specialist on future space shuttle flight crews.

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JULY 1978

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Biographical Data



Lyndon B. Johnson Space Center
Houston Texas 77058

NAME: Guion S. Bluford, Jr. (Major, USAF
Astronaut Candidate (Mission Specialist))

BIRTHPLACE AND DATE: Born in Philadelphia, Pennsylvania, on November 22, 1942. His mother, Mrs. Lolita Bluford, resides in Philadelphia.

PHYSICAL DESCRIPTION: Black hair; brown eyes; height: 6 feet; weight: 180 pounds.

EDUCATION: Graduated from Overbrook Senior High School in Philadelphia, Pennsylvania, in 1960; received a bachelor of science degree in Aerospace Engineering from the Pennsylvania State University in 1964; a master of science degree with distinction in Aerospace Engineering from the Air Force Institute of Technology in 1974; and a doctor of philosophy in Aerospace Engineering with a minor in Laser Physics from the Air Force Institute of Technology in 1978.

MARITAL STATUS: Married to the former Linda Tull of Philadelphia, Pennsylvania. Her father, Mr. Dewey Tull, resides in Philadelphia.

CHILDREN: Guion Stewart III, June 12, 1964; James Trevor, October 25, 1965.

RECREATIONAL INTERESTS: His hobbies include reading, photography, and working with stereo equipment; he also enjoys jogging, racquetball, handball, and tennis.

ORGANIZATIONS: Member of the American Institute of Aeronautics and Astronautics, the Air Force Association, and Tau Beta Pi.

SPECIAL HONORS: Presented the Leadership Award of Phi Delta Kappa (1962); the National Defense Service Medal (1965); 10 Air Force Air Medals (1967); 3 Air Force Outstanding Unit Awards (1967, 1970, 1972); the Germany Air Force Aviation Badge from the Federal Republic of West Germany (1969); T-38 Instructor Pilot of the Month (1970); Air Training Command Outstanding Flight Safety Award (1970); an Air Force Commendation Medal (1972); the Air Force Institute of Technology's Mervin E. Gross Award (1974); Who's Who Among Black Americans 1975-1977; an Air Force Meritorious Service Award (1978).

EXPERIENCE: Bluford graduated from Penn State University in 1964 as a distinguished Air Force ROTC graduate.

He attended pilot training at Williams Air Force Base, Arizona, and received his pilot wings in January 1965. He then went to F-4C combat crew training in Arizona and Florida and was assigned to the 557th Tactical Fighter Squadron, Cam Ranh Bay, Vietnam. He flew 144 combat missions, 65 of which were over North Vietnam.

In July 1967, he was assigned to the 3630th Flying Training Wing, Sheppard Air Force Base, Texas, as a T-38A instructor pilot. He served as a standardization/evaluation officer and as an assistant flight commander. In early 1971, he

attended Squadron Officers School and returned as an executive support officer to the Deputy Commander of Operations and as School Secretary for the Wing.

In August 1972, he entered the Air Force Institute of Technology residency school at Wright-Patterson Air Force Base, Ohio. Upon graduating in 1974, he was assigned to the Air Force Flight Dynamics Laboratory at Wright-Patterson Air Force Base, Ohio, as a staff development engineer. He served as Deputy for Advanced Concepts for the Aeromechanics Division and as Branch Chief of the Aerodynamics and Airframe Branch in the Laboratory. Bluford has written and presented several scientific papers in the area of computational fluid dynamics.

He has logged over 2,500 hours jet flight time in the T-33, T-37, T-38, F-4C, C-135, and F-5A/B, including 1,300 hours as a T-38 instructor pilot. He also has an FAA commercial pilot license.

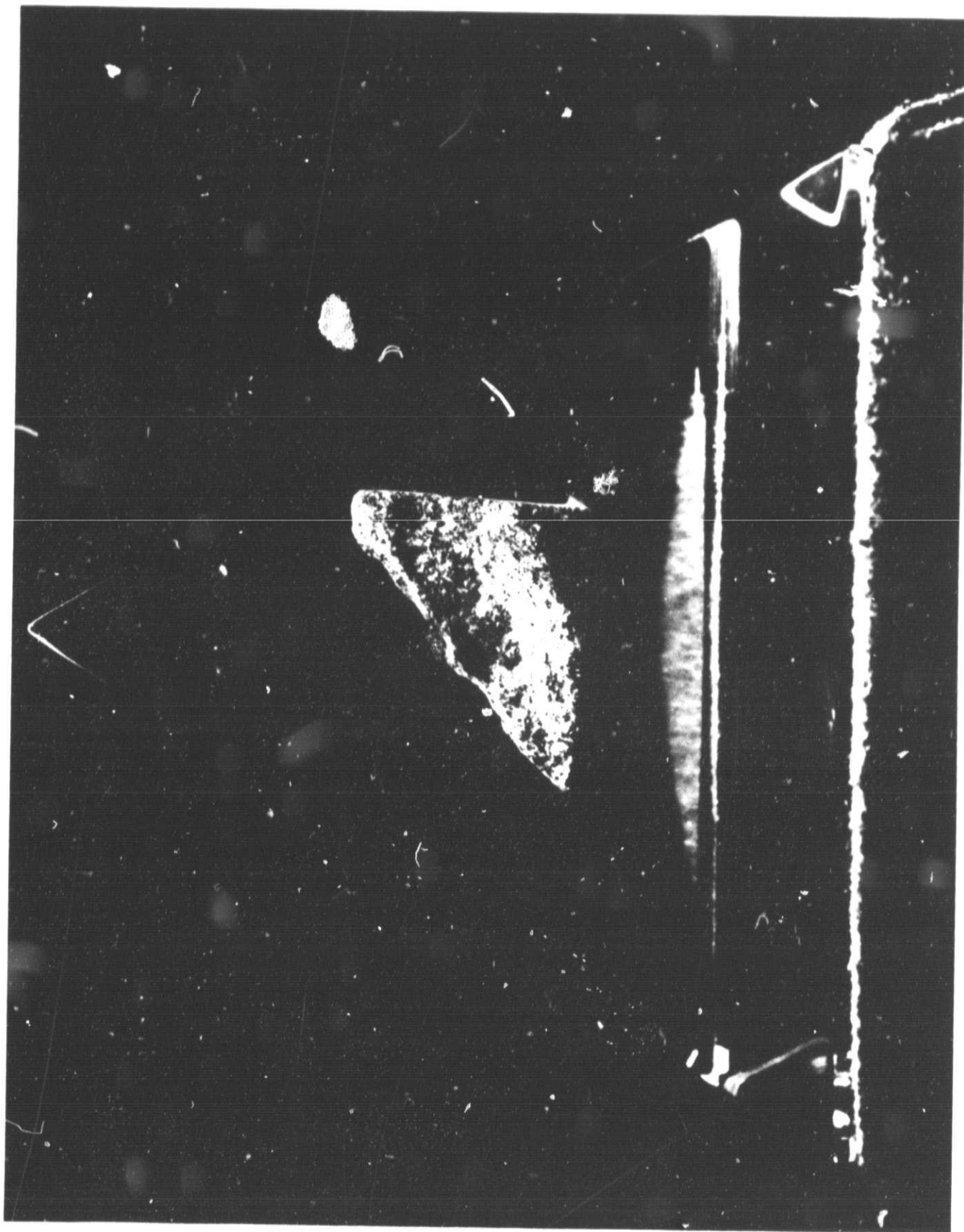
CURRENT ASSIGNMENT: Major Bluford was selected as an astronaut candidate by NASA in January 1978. In August 1979, he completed a 1-year training and evaluation period making him eligible for assignment as a mission specialist on future space shuttle flight crews.

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JANUARY 1980

Appendix E
Photographs of Exhibits

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MOON ROCK DISPLAY
(Lunar Sample No. 15,058,192 (026) collected by Apollo 15

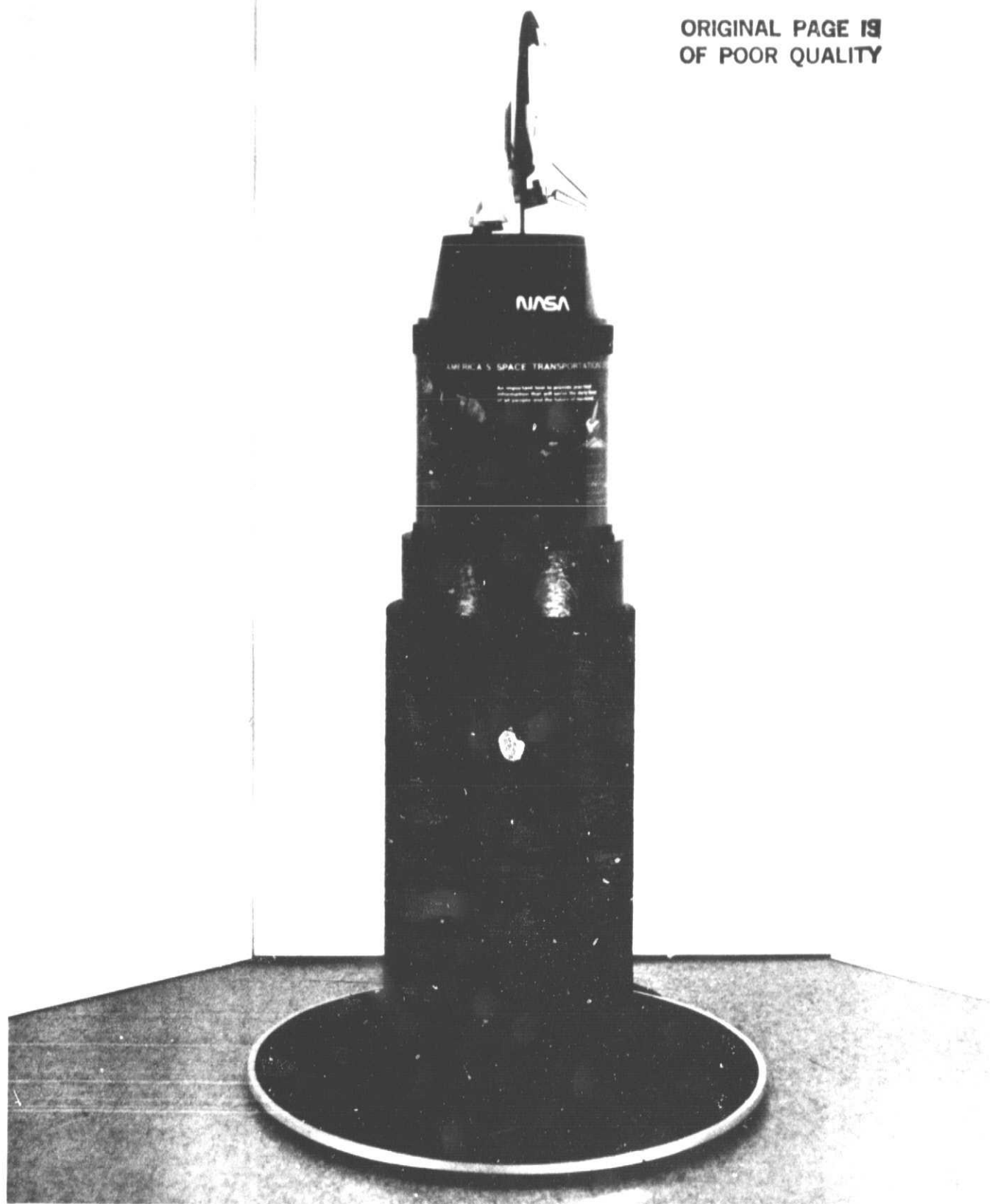
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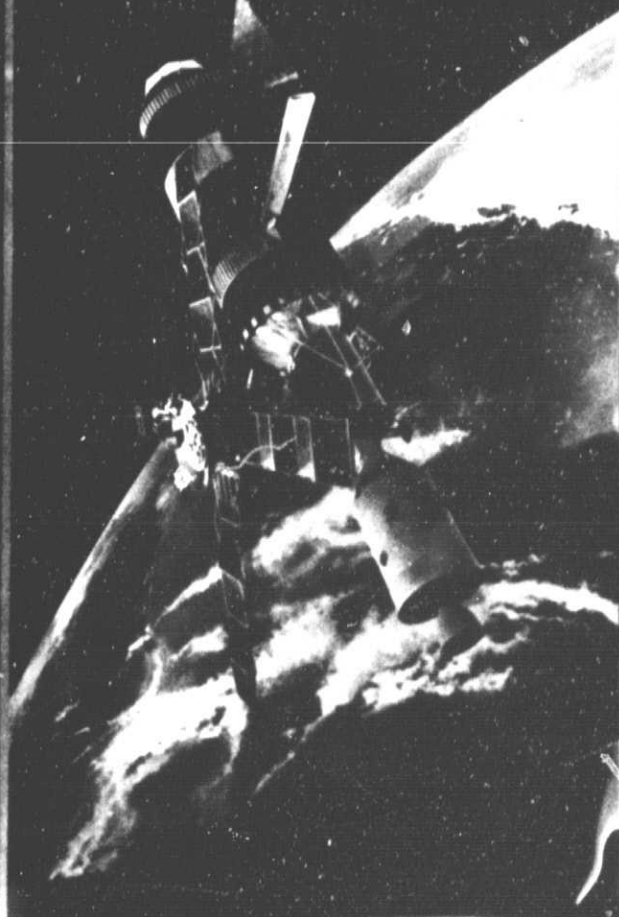


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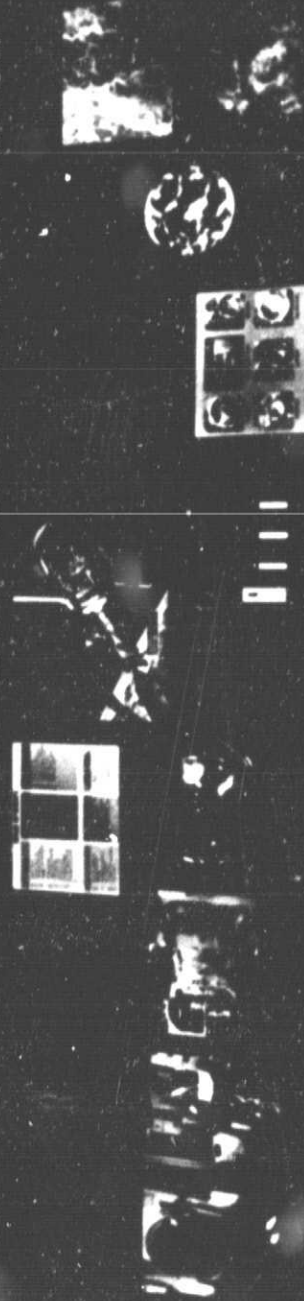


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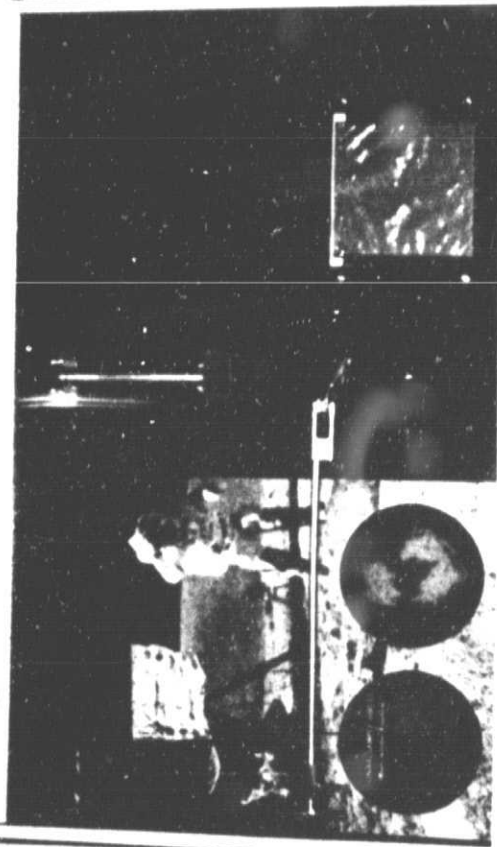


NATIONAL AERONAUTICS AND SPACE ADMINISTRATION



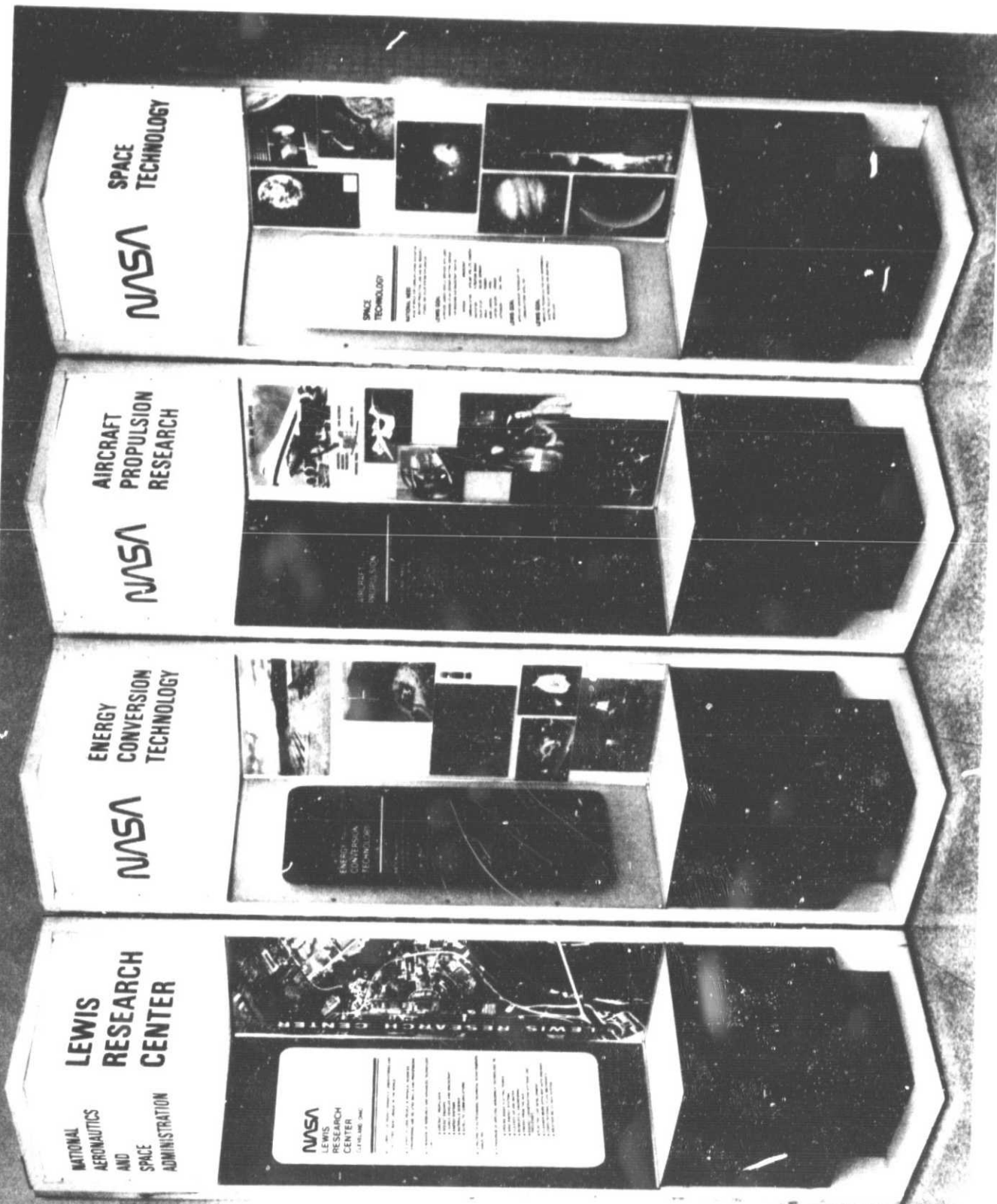
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some
findings
about the
Moon



geology
of the
MOON

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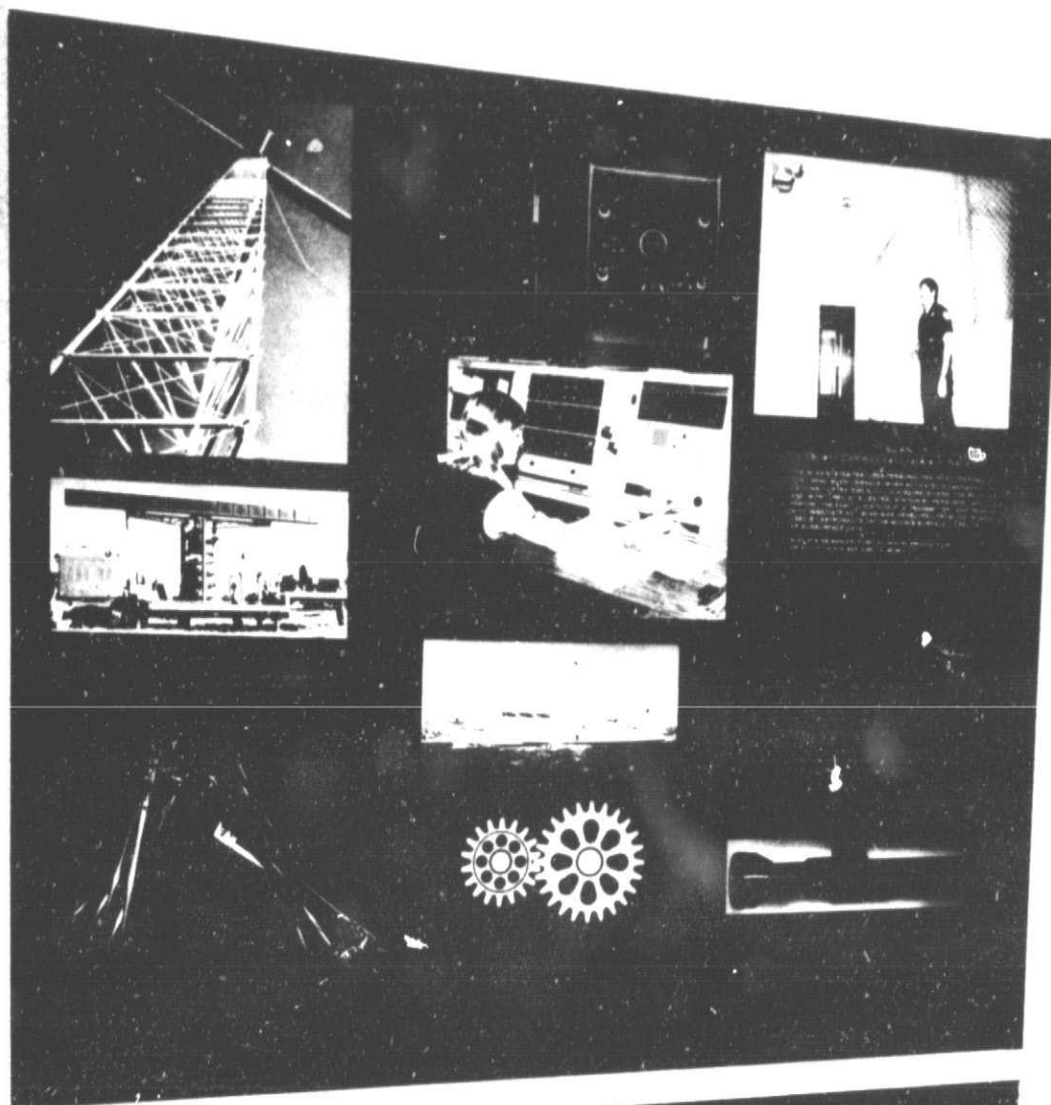
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HEALTH AND MEDICAL BENEFITS...
...FROM TECHNOLOGY DEVELOPED THROUGH
AMERICA'S SPACE PROGRAM

NASA

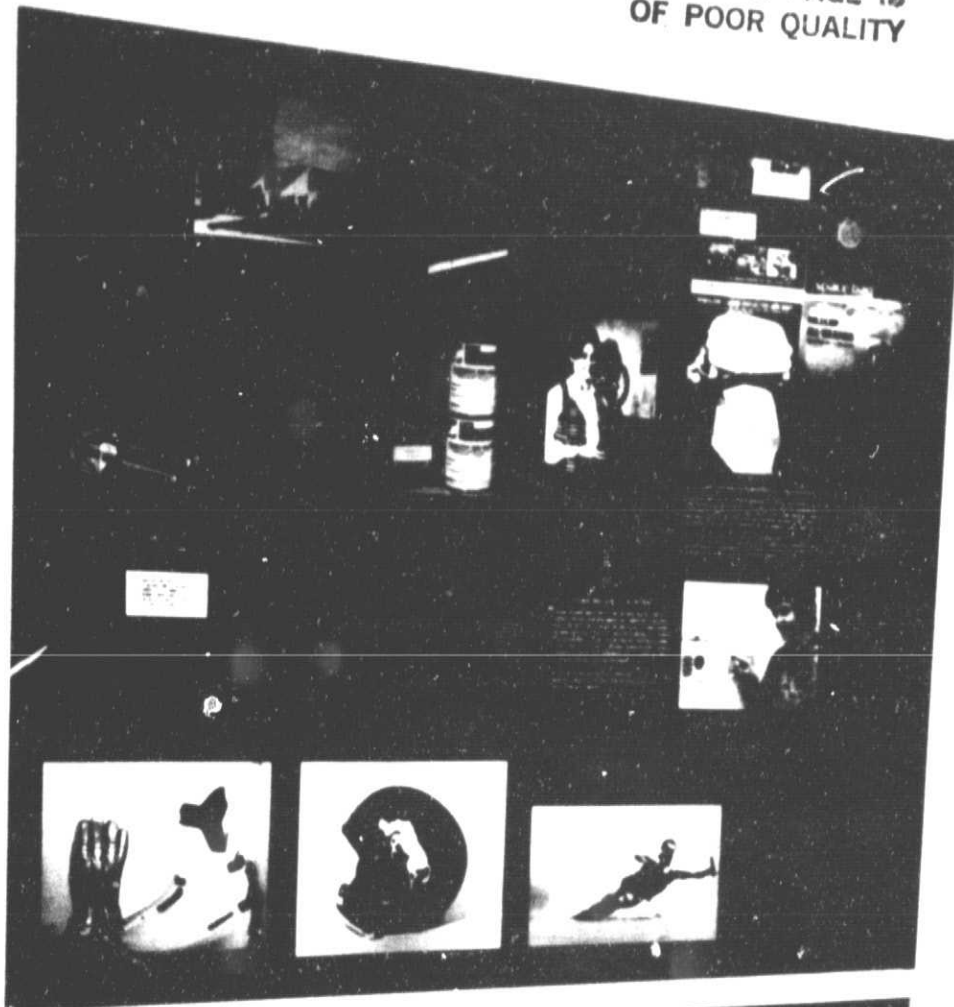
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INDUSTRIAL BENEFITS...
...FROM TECHNOLOGY DEVELOPED THROUGH
AMERICA'S SPACE PROGRAM

NASA
National Aeronautics and
Space Administration
Marshall Space Flight Center
Huntsville, Alabama

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HOME AND PERSONAL BENEFITS...
...FROM TECHNOLOGY DEVELOPED THROUGH
AMERICA'S SPACE PROGRAM

NASA

National Aeronautics and
Space Administration
Washington, D.C. 20546

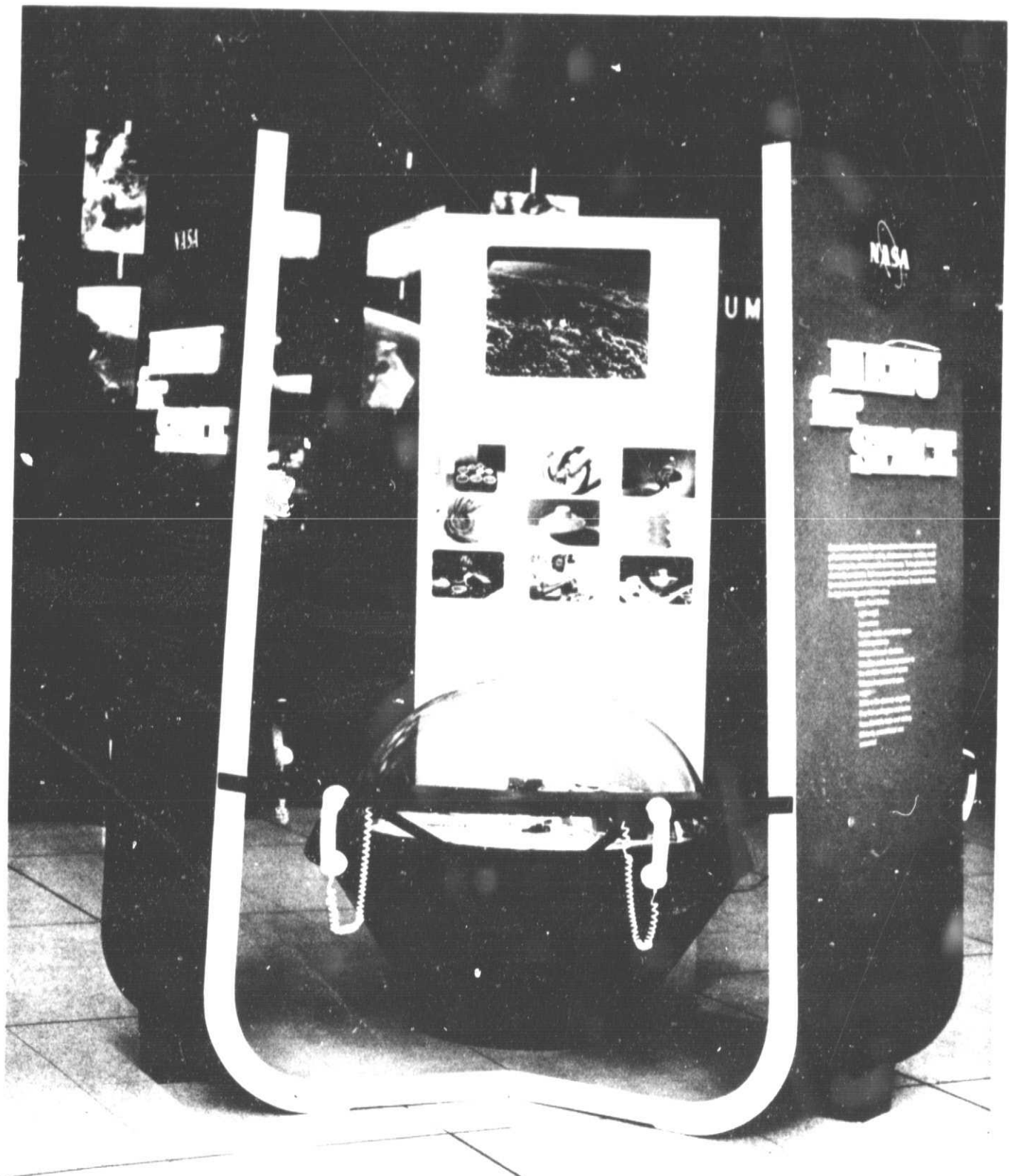
NASA

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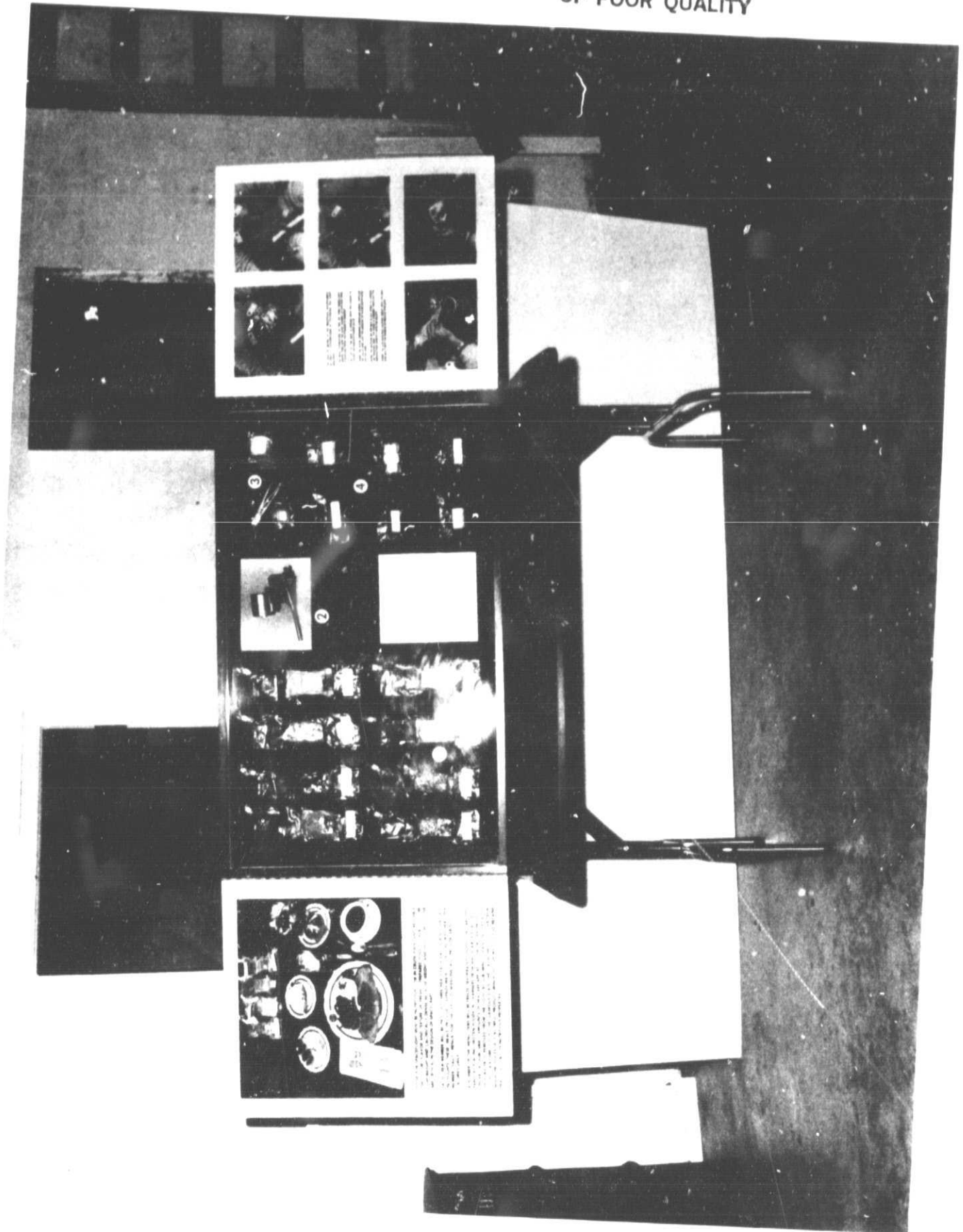
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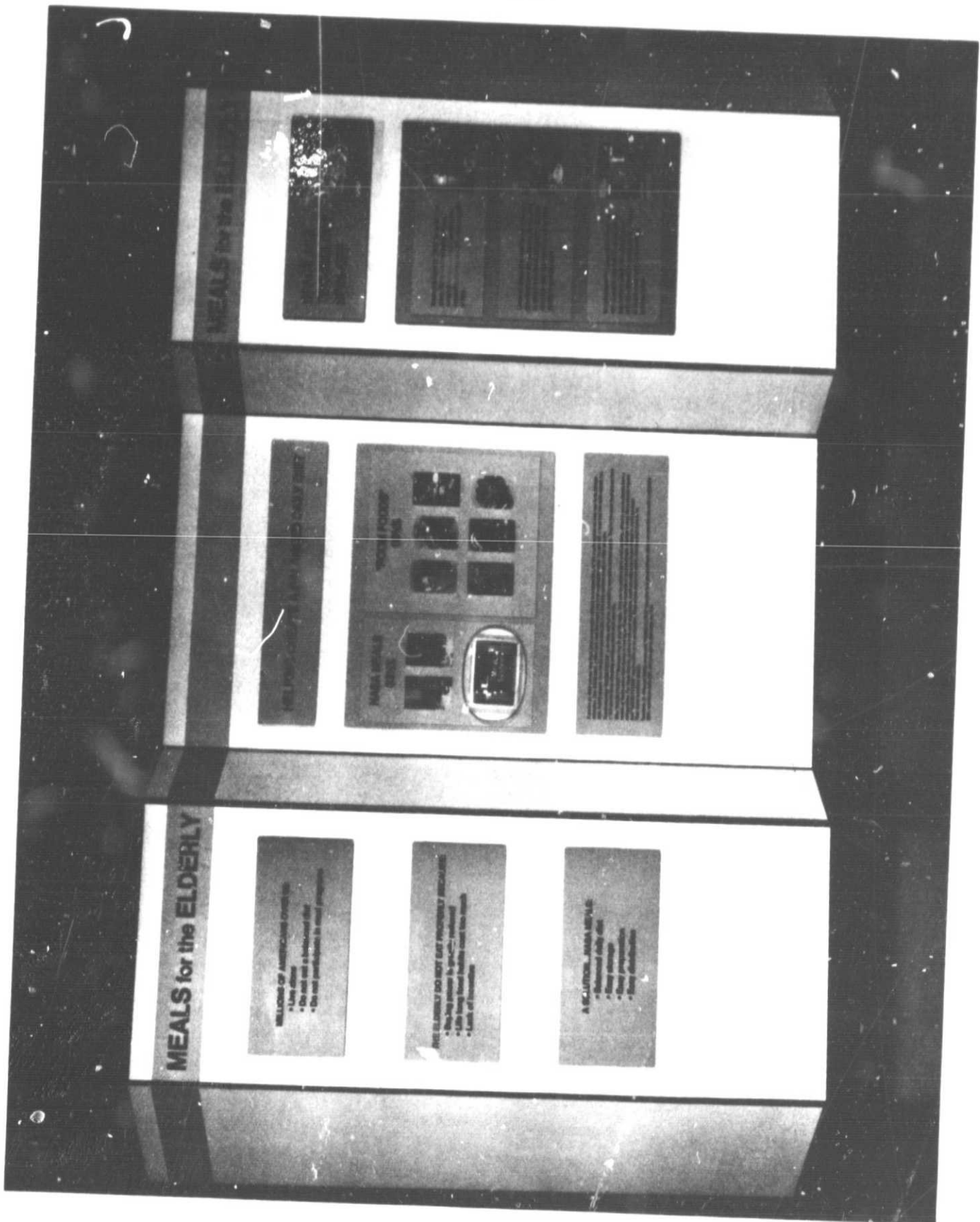


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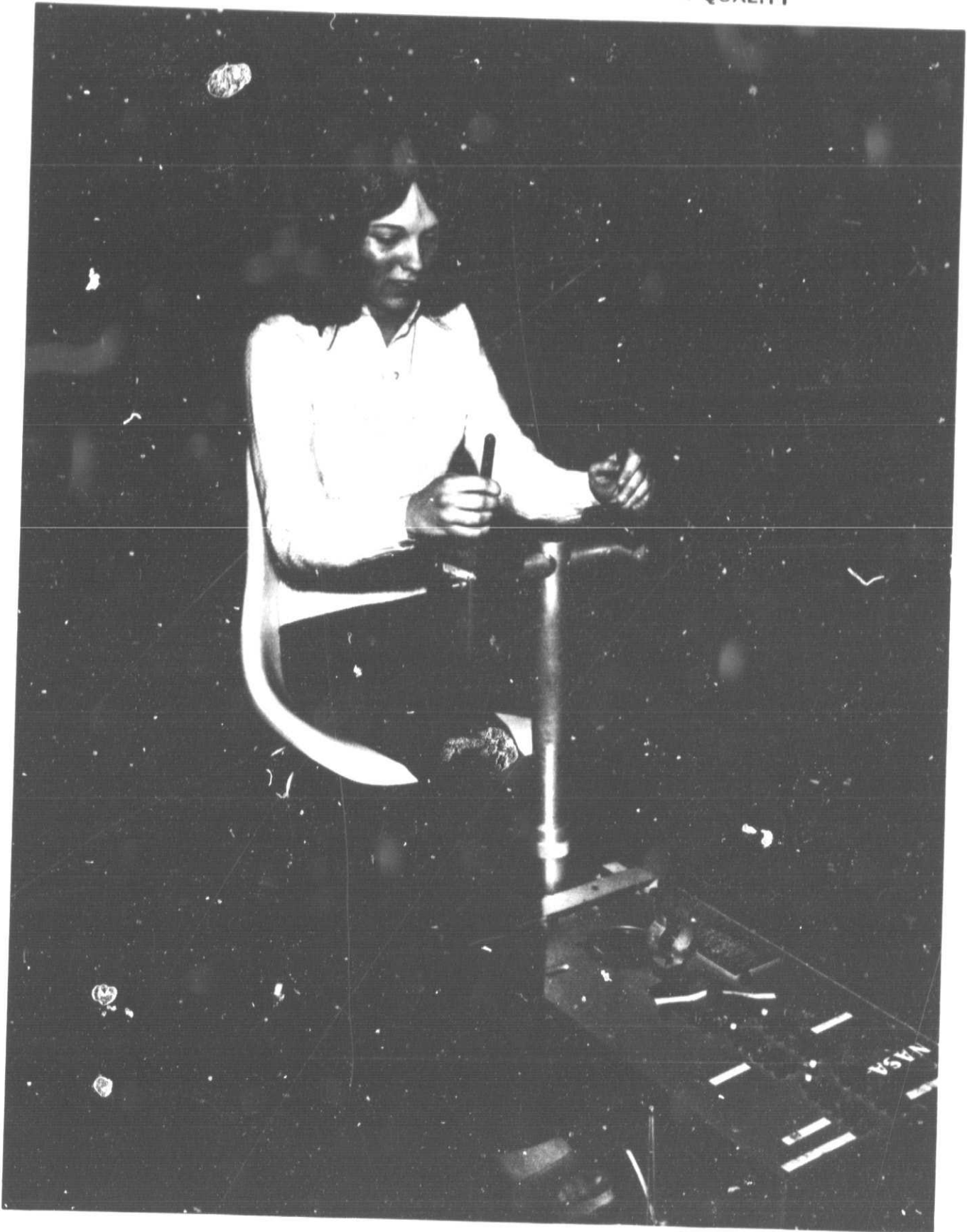


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NASA Lewis Research Center Impact for the 80's

This is Lewis "The Energy Conversion Center"

- 350 acres of specialized laboratories and facilities
- 2800 people skilled in physical sciences, engineering and related disciplines
- Developing energy conversion technologies for
 - Aircraft propulsion
 - Space propulsion and power
 - Communications by Satellite
 - Terrestrial energy systems

APPENDIX F

Listing of Hand-out Literature

1. EP-156 "Space Shuttle at Work" (16 cartons) - 1040
2. EP-155 "This is NASA" (20 cartons) - 3000
3. Space Shuttle (4 cartons) - 4000
4. Spin-Offs (2 cartons) - 6000
5. Landsat: A Tool for Your Classroom (1 carton) - 400
6. Solar Energy Index
7. Wind - An Energy Alternative
8. Looking at Lewis
9. Space Souvenir Photograph Folders
10. Black Contributions (6 cartons) 1500
11. Latinas Contribuciones (14 cartons) - 3000
12. Women in Science and Engineering (3 cartons) - 720

Appendix G

Statistical Information about the Schools that
Participated in the Program

Table 1
Grade and High Schools Participation
by Day of the Week

		<u># of Grade Schools</u>	<u># of High Schools</u>	<u>Total Schools</u>
Monday	AM	15	4	19
	PM	3	---	--
Tuesday	AM	14	---	14
	PM	4	---	4
Wednesday	AM	11	---	11
	PM	3	2	5
Thursday	AM	11	2	13
	PM	3	2	5
Friday	AM	15	3	18
	PM	<u>3</u>	<u>---</u>	<u>3</u>
Total		82	13	95

Table II
Grade and High School Students
Participation by Day of the Week

		<u># of Grade School Students</u>	<u># of High School Students</u>	<u>Total Students</u>
Monday	AM	946	137	1083
	PM	162	---	162
Tuesday	AM	1388	---	1388
	PM	305	---	305
Wednesday	AM	1255	---	1255
	PM	176	90	266
Thursday	AM	885	105	990
	PM	425	80	505
Friday	AM	939	90	1029
	PM	<u>314</u>	<u>---</u>	<u>314</u>
Total		6795	502	7297

A Total of 7,297 students participated in the program. Of this number, 7% came from high schools and 93% from elementary schools.

Private Representation: Three private schools participated in the program with students representing less than 1% of the total students.

Parochial Representation: Ten parochial schools participated in the program with students representing 11% of the total.

NOTE: A complete listing of the schools that participated in the program follows on the next sheets:

MONDAY, MARCH 17, 1980

<u>Name of School & Address</u>	<u>Number of Students</u>
Buckeye-Woodland Elementary 9511 Buckeye Road Cleveland, OH 44104	60
Bolton Elementary 9803 Quebec Avenue Cleveland, OH 44106	90
Denison Elementary 3799 West 33rd Street Cleveland, OH 44109	100
Bryden Elementary School 25501 Bryden Road Beachwood, OH 44122	20
Cuyahoga Heights Elementary 4880 E. 71st Street Cuyahoga Heights, OH 44125	15
Alfred A. Benesch Elementary 4950 Outwaite Avenue Cleveland, OH 44104	60
Oldman Transitional 480 Northfield Road Bedford, OH 44146	6
Almira Elementary 3380 West 98th Street Cleveland, OH 44102	60
Benjamin Franklin Elementary 1905 Spring Road Cleveland, OH 44109	85
Case Elementary 4050 Superior Avenue Cleveland, OH 44103	50
Kensington School 20140 Lake Rocky River, OH 44116	74

MONDAY, MARCH 17, 1980 (Continued)

<u>Name of School & Address</u>	<u>Number of Students</u>
Rocky River Junior High School 1631 Lakeview Rocky River, OH 44116	90
Hawken School Clubsides Road Lyndhurst, OH 44124	1
Captain Arthur Roth Elementary 12523 Woodside Avenue Cleveland, OH 44108	90
Charles Orr Elementary 9711 Lamont Avenue Cleveland, OH 44106	40
Clark Elementary 5550 Clark Avenue Cleveland, OH 44102	55
Fullerton Elementary 5920 Fullerton Avenue Cleveland, OH 44105	65
Independent School 2222 Taylor Road East Cleveland, OH 44112	40
Lewis Sands School 400 East Washington Chagrin Falls, OH 44022	82
East Cleveland Schools 15305 Terrace East Cleveland, OH 44112	108
Bratenahl Schools 10300 Brighton Road Bratenahl, OH 44108	9

TUESDAY, MARCH 18, 1980

Goldwood School 21600 Center Ridge Road Rocky River, OH 44116	53
Berea Schools 390 Fair Street Berea, OH 44017	250

TUESDAY, MARCH 18, 1980 (Continued)

<u>Name of School & Address</u>	<u>Number of Students</u>
Memphis Elementary 4103 Memphis Avenue Cleveland, OH 44109	100
Daniel E. Morgan Elementary 1440 East 92nd Street Cleveland, OH 44106	60
Chesterfield Elementary 12301 Chesterfield Cleveland, OH 44108	60
Laurel School 1 Lyman Circle Shaker Heights, OH 44122	60
Hazeldell Elementary 654 East 124th Street Cleveland, OH 44108	95
Louisa M. Alcott Elementary 10308 Baltic Road Cleveland, OH 44102	25
Marion C. Seltzer Elementary 1468 West 98th Street Cleveland, OH 44102	100
McKinley Elementary 3349 West 125th Street Cleveland, OH 44102	60
Walton Elementary 3409 Walton Avenue Cleveland, OH 44113	75
Berea Schools 390 Fair Street Berea, OH 44017	250
Halle Elementary 7901 Halle Avenue Cleveland, OH 44128 Cleveland, OH 44128	100
Louis Pasteur Elementary 815 Linn Drive Cleveland, OH 44108	100
East Cleveland Schools 15305 Terrace East Cleveland, OH 44112	109

TUESDAY, MARCH 18, 1980 (Continued)

<u>Name of School & Address</u>	<u>Number of Students</u>
St. Vincent dePaul 13442 Lorain Avenue Cleveland, OH 44111	135
Shaker Heights High School 15911 Aldersyde Shaker Heights, OH 44120	35
St. Adelbert School 2345 East 83rd Street Cleveland, OH 44104	26

WEDNESDAY, MARCH 19, 1980

Berea Schools 390 Fair Street Berea, OH 44017	155
Cranwood Elementary 13604 Christine Avenue Cleveland, OH 44105	160
Verda Brobst Elementary 4840 West 192nd Street Cleveland, OH 44135	90
Berea Schools 390 Fair Street Berea, OH 44017	195
Adlai Stevenson Elementary 3938 JoAnn Drive Cleveland, OH 44122	80
Andrew J. Rickoff Elementary 3500 East 147th Street Cleveland, OH 44120	100
Wooster School 3035 Wooster Rocky River, OH 44116	37
Emile de Sauze 4747 East 176th Street Cleveland, OH 44128	75
Nathaniel Hawthorne Elementary 3575 West 130th Street Cleveland, OH 44111	160

WEDNESDAY, MARCH 19, 1980 (Continued)

<u>Name of School & Address</u>	<u>Number of Students</u>
Berea Schools 390 Fair Street Berea, OH 44017	113
Beehive Elementary 4345 Lee Road Cleveland, OH 44128	90
Holy Redeemer 15720 Kipling Cleveland, OH 44110	6
East Cleveland Schools 15305 Terrace East Cleveland, OH 44112	60
Glen Oak School 35001 Cedar Road Gates Mills, OH 44040	30
Gesu School 2440 Miramar University Heights, OH 44118	110
St. Adalbert 2345 East 83rd Street Cleveland, OH 44104	60

THURSDAY, MARCH 20, 1980

North Royalton High School 14713 Ridge Road North Royalton, OH 44133	60
Artemus Ward Elementary 4315 West 140th Street Cleveland, OH 44135	70
Longmead Elementary 12712 Longmead Avenue Cleveland, OH 44135	60
Oliver H. Perry Elementary 18400 Schenley Avenue Cleveland, OH 44119	140
St. Joseph Academy 3430 Rocky River Drive Cleveland, OH 44111	45

THURSDAY, MARCH 20, 1980 (Continued)

<u>Name of School & Address</u>	<u>Number of Students</u>
Brooklawn Elementary 11801 Worthington Cleveland, OH 44111	60
Garfield Elementary 3800 West 140th Street Cleveland, OH 44111	95
Gracemount Elementary 16200 Glendale Avenue Cleveland, OH 44128	120
East Clark Elementary 885 East 146th Street Cleveland, OH 44110	100
Euclid Park Elementary 17914 Euclid Avenue Cleveland, OH 44112	60
Henry W. Longfellow Elementary 650 East 140th Street Cleveland, OH 44110	60
Kenneth W. Clement Elementary 14311 Woodworth Cleveland, OH 44110	60
Robert Fulton Elementary 3291 East 140th Street Cleveland, OH 44120	60
East Cleveland Schools 15305 Terrace East Cleveland, OH 44112	115
St. Peter's School 3601 Oberlin Avenue Lorain, OH 44053	60
Independence High School 6111 Archwood Independence, OH 44131	30
Oxford School 939 Quilliams University Heights, OH 44121	50
Heritage Christian School 16699 East Bagley Middleburgh Heights, OH 44130	250

FRIDAY, MARCH 21, 1980

<u>Name of School & Address</u>	<u>Number of Students</u>
William C. Bryant Elementary 3121 Oak Park Avenue Cleveland, OH 44109	40
William R. Harper Elementary 5515 Ira Avenue Cleveland, OH 44144	25
Tremont Elementary 2409 West 10th Street Cleveland, OH 44135	90
Watterson-Lake Elementary 1422 West 74th Street Cleveland, OH 44102	90
Lafayette Elementary 12416 Signet Avenue Cleveland, OH 44120	80
Lewis Sands 400 East Washington Chagrin Falls, OH 44022	63
John D. Rockefeller Elementary 5901 Whittier Avenue Cleveland, OH 44103	60
Willard Elementary 2220 West 93rd Street Cleveland, OH 44102	75
Paul L. Dunbar Elementary 2200 West 28th Street Cleveland, OH 44113	55
Stephen E. Howe Elementary 1000 Lakeview Road Cleveland, OH 44108	70
East Junior High School 5460 West Boulevard Maple Heights, OH 44137	10
St. Bartholomew School 14875 East Bagley Road Middleburg Heights, OH 44130	66

FRIDAY, MARCH 21, 1980 (Continued)

<u>Name of School & Address</u>	<u>Number of Students</u>
Bellefaire 22001 Fairmount Boulevard Shaker Heights, OH 44118	15
Milford Elementary 3530 West 45th Street Cleveland, OH 44102	65
Waverly Elementary 1925 West 58th Street Cleveland, OH 44102	55
Woodland Hills Elementary 9201 Crane Avenue Cleveland, OH 44105	65
Beach School 1101 Morewood Parkway Rocky River, OH 44116	40
St. Peter's School 3601 Oberlin Avenue Lorain, OH 44053	65
Dentzler Elementary School 3600 Dentzler Parma, OH 44134	81
Arlington Elementary School 7377 Chateau Drive Parma, OH 44130	22
East Cleveland Schools 15305 Terrace East Cleveland, OH 44112	211

Appendix H
Newspaper Articles

Newspaper Articles

- (1) March 6, 1980, The Press, Cleveland, Ohio
- (2) March 7, 1980, Tri-Campus, Cleveland, Ohio
- (3) March 8, 1980, Call and Post, Cleveland, Ohio
- (4) March 14, 1980, The Mosaic, Cuyahoga Community College, Cleveland, Ohio
- (5) March 19, 1980, The Press, Cleveland, Ohio
- (6) March 20, 1980, The Sun Messenger, Lyndhurst, Ohio
- (7) March 20, 1980, The Sun Press, Cleveland Heights, Ohio
- (8) March 20, 1980, The News Sun, Berea, Ohio
- (9) March 20, 1980, The Scoop-Journal, Cleveland, Ohio
- (10) March 20, 1980, The Press, Cleveland, Ohio
- (11) March 20, 1980, Euclid News Journal, Euclid, Ohio
- (12) March 20, 1980, The Sun Courier, Brecksville, Ohio
- (13) March 20, 1980, Southeast Sun, Bedford, Ohio
- (14) March 20, 1980, Sun Star, Strongsville & North Royalton, Ohio
- (15) March 21, 1980, The Chronicle-Telegram, Elyria, Ohio
- (16) March 21, 1980, The Mosaic, Cuyahoga Community College, Cleveland, Ohio
- (17) March 21, 1980, The Plain Dealer, Cleveland, Ohio
- (18) March 22, 1980, The Plain Dealer, Cleveland, Ohio
- (19) March 22, 1980, The Parma Sun Post, Parma, Ohio
- (20) April 19, 1980, The Catholic Universe Bulletin, Cleveland, Ohio



Cuyahoga
Community
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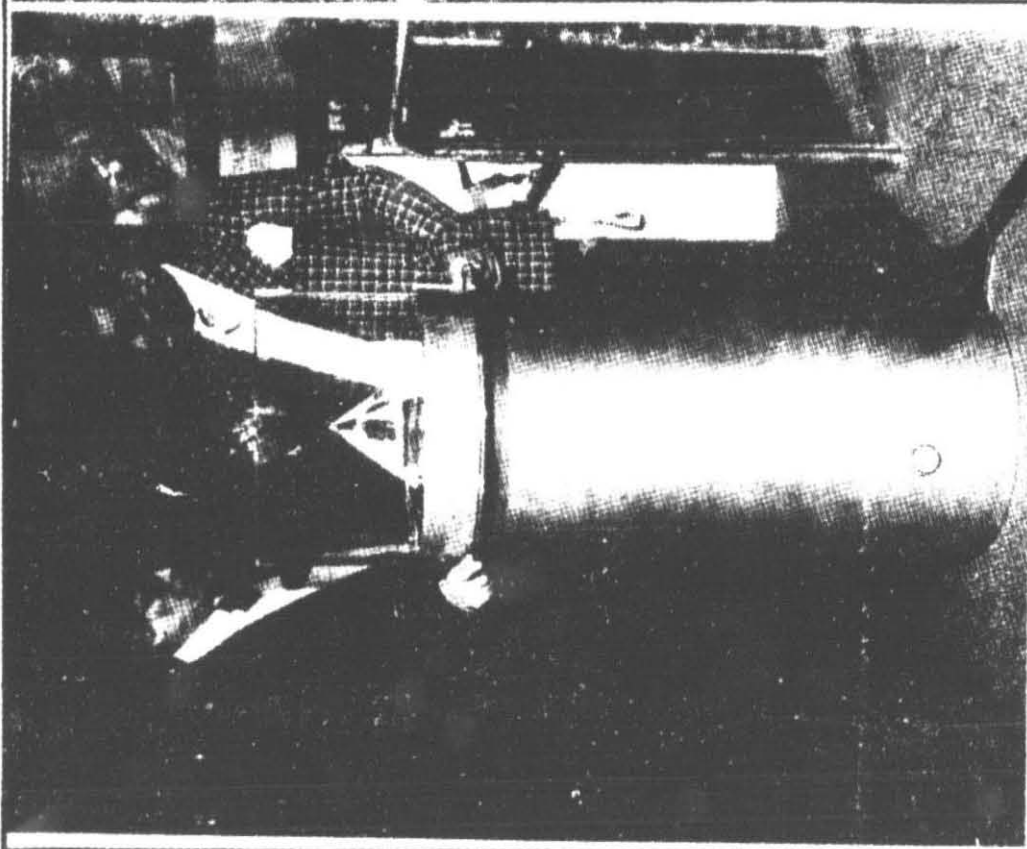
THE MOSAIC

WEEKLY NEWS

"A Student Publication of CCC Metro"

Vol. 5, Issue 19

March 14, 1968



Dr. Hirendra Ghose of CCC Metro and Harrison Allen of NASA look over moon rock at the

Lewis Research Center at the NASA center of Cleveland. Photo courtesy of Dr. Ghose and NASA.

"Space Odyssey" comes to Metro

by Deland M. Whitson

Cuyahoga Community College, in cooperation with the National Aeronautics and Space Association (NASA) and the Cleveland Public Schools will present the "Cleveland Space Odyssey" at CCC Metro for an estimated 10,000 Cleveland area students and their teachers during the week of March 17 through March 21. It will be open to CCC students, faculty, staff and administrators, along with the general public on the weekend on March 22 and March 23, free of charge.

The Cleveland Space Odyssey is "an aerospace experience designed to give Cleveland area students and teachers an opportunity to learn more about aerospace science and technology, and its application for improving our way of life." The major people involved in the program are Dr. H. M. Ghose (CCC Metro Assistant Dean - Allied Health), Donna Rose (Assistant Dean Physical Sciences), Harrison Allen (NASA Chief of Public Services) and Richard T. Codispoti (Supervisor of Sciences, Cleveland Public Schools).

The major objectives of the program

are to "explain the activities of NASA and tell why continued research in aeronautics and aerospace is important, and to explore academic and employment opportunities." It is also hoped that it will "demonstrate space technology advances and potential applications to our everyday lives, and to introduce teachers to programs and techniques designed to acquaint students with NASA and aerospace education opportunities."

There will be two astronauts who will be on the CCC Metro Campus to speak and lecture on a variety of subjects. Shannon Lucid, a female astronaut, will speak on Monday, March 17. And Guian Bluford, one of the few black astronauts, will speak on Thursday, March 20. Both will have interesting stories to tell.

According to Dr. Hirendra Ghose the "Cleveland Space Odyssey" will attract "young people from every school system" in Cuyahoga County and its surrounding counties. The Cleveland Space Odyssey is focused toward Cuyahoga County students, but Dr. Ghose

(Continued on Page 2)

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MARCH 21, 1980

Female Astronaut Talks

By Danita Oatman

NASA's Mrs. Shannon Lucid recently said during a brief interview, "Women can be active in many facets of the Space Program if they hold the necessary requirements." Mrs. Lucid is one of six women in addition to thirty-five men who are U.S. astronauts. Born in Shang Hai, China, to missionaries, (her father, was a preacher, and her mother, a nurse) Mrs. Lucid said it had always been her dream to become an astronaut.

Mrs. Lucid is a graduate of the University of Oklahoma where she obtained a B.S. in Chemistry and a Ph.D in Biochemistry. In addition to being an astronaut, Mrs. Lucid is a wife and the mother of three children.

As part of the exposition on campus with the Space Mobile, (a monthly presentation shown in various areas of the nation), Mrs. Lucid also presented several lectures and exhibits dealing with the Space Program. As far as the future is concerned, Mrs. Lucid feels that she will become more active in three or four years than she is right now, due to the Space Program's seniority rule. She says that there are quite a few people in front of her at this point. She added that as there is no age limit for the Program, she expects to be active for many years to come.

Mrs. Lucid lives near the Johnson Center in Houston, Texas. Mrs. Lucid said that her visit to Cleveland was pleasant and that Cuyahoga Community College has excellent facilities. She is now on her way to Detroit but will be heading for home soon after. The Space Exhibit as well as Mrs. Lucid will be back on the road during April and May.



Cuyahoga
Community
College

THE MOSAIC

"A Student Publication of CCC Metro"

WEEKLY NEWS

Vol. 5, Issue 20

MARCH 21, 1980

"Space Odyssey" Blasts Off Successfully

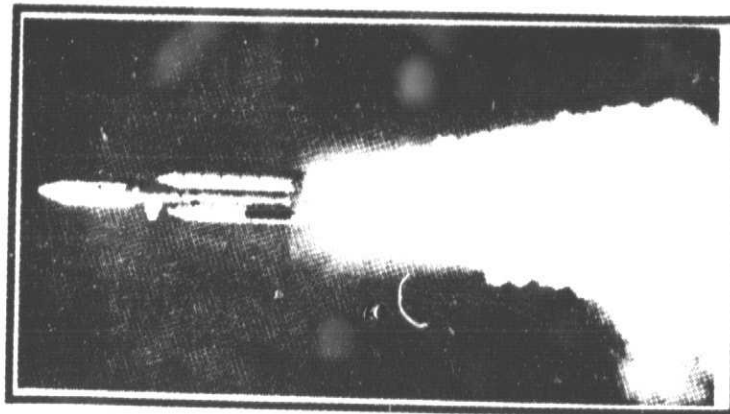
By Christopher Neal

The "Space Odyssey" exhibit on display in the gymnasium of Tri-C's Metro campus, is a success. This expresses the sentiment of Dr. Hirenda Ghose who, in coordination with the National Aeronautics and Space Administration (NASA), has brought the program to Tri-C Metro.

Dr. Ghose is the Department Head of Physical Sciences as well as Project Director for the Center of Science here at Tri-C Metro. According to Dr. Ghose, almost everyone who has seen the exhibit has been both pleased and surprised by what they have seen.

Approximately 2400 people, most of them students, visit the display each day. The majority of these come during the morning hours with the remainder waiting until the evening show. One problem mentioned by Dr. Ghose, is that the Cleveland School System has been sending more students than were originally agreed upon. This has posed no real difficulty thanks to the help of several key coordinators, namely, Mr.

(Continued on Page 2)



(Continued from Page 1)

Gary Bryan, Mr. Larry Smith and Mr. John Smith.

Both Mr. Bryan and Mr. L. Smith are Lab Supervisors for Tri-C Metro, while Mr. J. Smith is an instructor from the Cleveland School System. These people acted as group leaders and were instrumental in making sure that the flow of students was uninterrupted. Dr. Ghose also cited his assistant, Donna Rose, as well as the Superintendent of Buildings and Grounds, Mr. Brown for a job well done. Security, which was billed as excellent, was lead by Mr. Monroe.

To introduce the event to the public, a VIP party was held Sunday, March 16, in the auditorium. The guests numbered

approximately 200 and included citizens, administrators and NASA officials. In addition to informing the public, the party helped to display Tri-C Metro's Science department which is one of the best in the area.

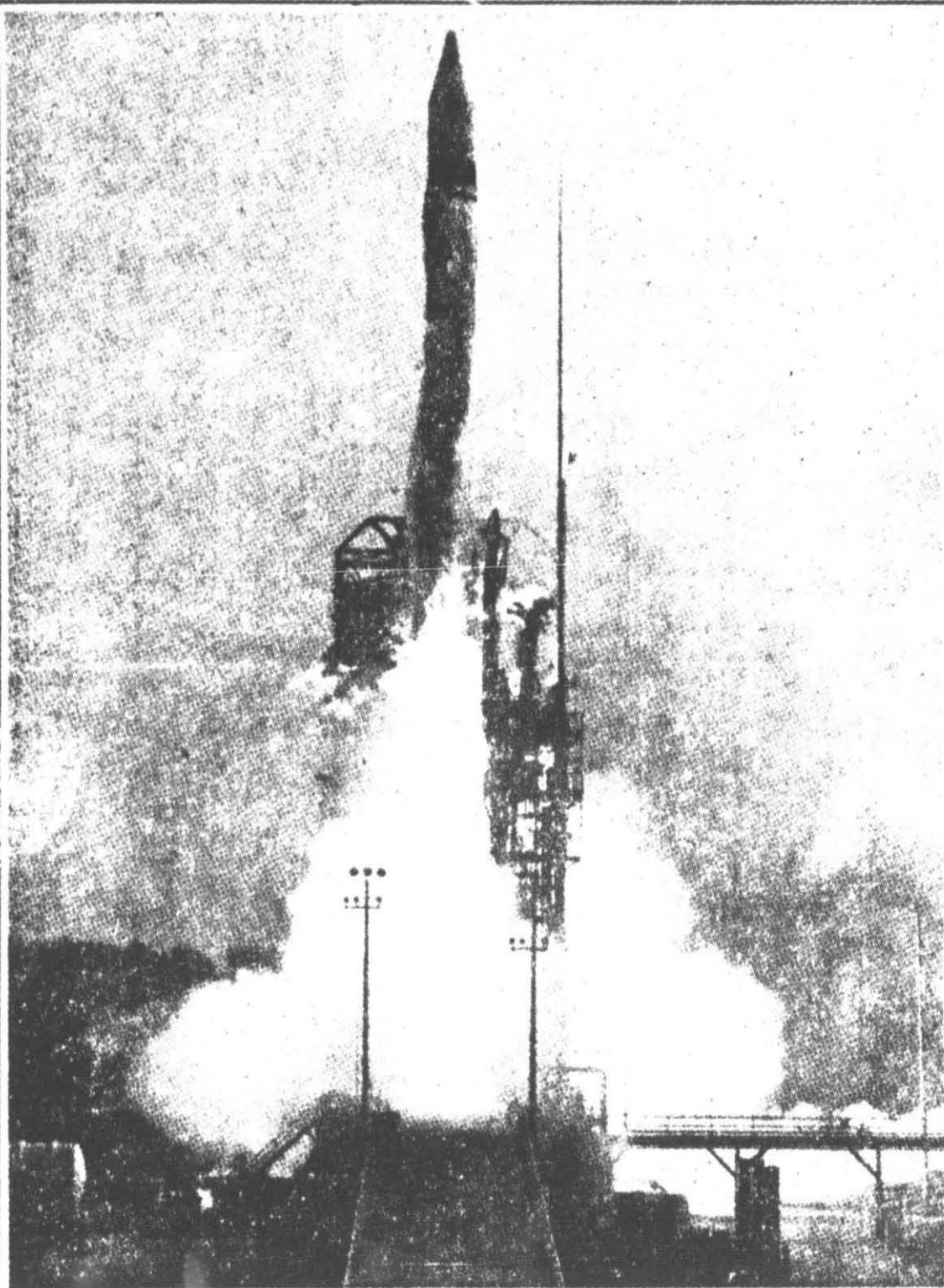
Dr. Ghose would like to express his appreciation for the work done by NASA's Chief of Public Services, Mr. Harrison Allen, who helped to coordinate the event and its scheduling. He also said that he and his group were tired but very glad that the event is going well.

The last day for the "Space Odyssey" exhibit is March 23 and admission is free.

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12-B

THE PLAIN DEALER, SATURDAY, MARCH 22, 1980



Outer Space Is

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Closer to Home

Ever think how you fit into the space program? Even if you've never been closer to a rocket launching than watching it on television, it's part of your life, down to the food you eat and the clothes you wear.

Find out how by visiting the Cleveland Space Odyssey today and tomorrow at Cuyahoga Community College's Metropolitan Campus in downtown Cleveland. It's free and it's your chance to see films, exhibits and demonstrations of the ways space-age technology is being used every day. See a real moon rock, models of the space

shuttle and Skylab. Test your coordination on machines used to train astronauts. Find out how space research is saving energy and improving nutrition for senior citizens.

It's all happening today and Sunday from 9 a.m. to 5 p.m. in the CCC Metro Campus gymnasium and theater. The Cleveland Space Odyssey is brought to you by NASA, Cuyahoga Community College and the Cleveland Public Schools. Convenient parking is available on campus for only 25 cents. Need more information? Call 241-5984.

Cleveland Space Odyssey

Saturday and Sunday 9 a.m. — 5 p.m.



Cuyahoga Community College

Metropolitan Campus: 2900 Community College Ave., Cleveland

Out of sight

Pupils go into orbit during their visit to Tri-C's Space Odyssey



These Parma youngsters got a close-up look at a powerful and sophisticated jet engine during their visit to "Cleveland Space Odyssey," an exhibit offered at Cuyahoga Community College's Metro Campus last week. (Sun photos by Steve Crompton)

By EDITH STARZYK

Maybe you remember that giddy feeling that swept the nation as John Glenn soared into orbit in 1962, showing the Russians that two could play the space game. Or maybe the picture that really sticks in your mind is Neil Armstrong whacking a golf ball across the surface of the moon in 1969. But things have changed since the first flushes of pride and amazement at America's thrust into outer space.

We've worried about spending money on space exploration while people still live in slums. We've grumbled and assumed a Chicken Little stance as Skylab got ready to meet its makers. And we've become casual about the first close-up snapshots of our neighboring planets.

A MOVE TO rekindle the old excitement — and reemphasize the common, every-day applications of knowledge gained through the space

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program — was undertaken at Cuyahoga Community College's Metro Campus last week. About a hundred sixth-graders from Dentzler and Arlington elementary schools joined thousands of other Greater Cleveland youngsters in visiting the "Space Odyssey" exhibit co-sponsored by the college, the National Aeronautics and Space Administration (NASA) and the Cleveland public schools.

The Parma pupils spent about an hour browsing through an exhibit area before adjourning to a lecture and demonstration on the spacemobile. As their charges zoomed from display to display, Dentzler teachers Beverly Bryski, Linda Duffy and Teri Metyk explained why they thought the experience was valuable.

"It's part of life now," Ms. Bryski said of the space program. "And it will be part of the future. It's important that the children be exposed to it since they're the future."

THE SPACE PROGRAM'S contributions in such fields as energy, communications, transportation and medicine were highlighted as well as a moon rock, samples of space food and model satellites.

But the most popular item was a machine used to test astronauts' reactions. Children crowded around as others took their turn in the seat, trying to match hand and foot movements with blinking lights.

The Parma pupils, all 11 or 12 years old, were babies when Armstrong set foot on the moon. A group of Dentzler girls said they considered a trip to the moon "pretty normal."

Some of the children giggled as they discussed the usefulness of one of the school of the space program — calculators. They admitted they use the devices at home, although they are not allowed to use them in school math classes.

Parma's connection with NASA's Lewis Research Center in Cleveland made the exhibit especially pertinent to the Dentzler and Arlington pupils. Ms. Bryski pointed out. Some of the children have parents who work at the center, and in the future, some are likely to work there themselves, she added.

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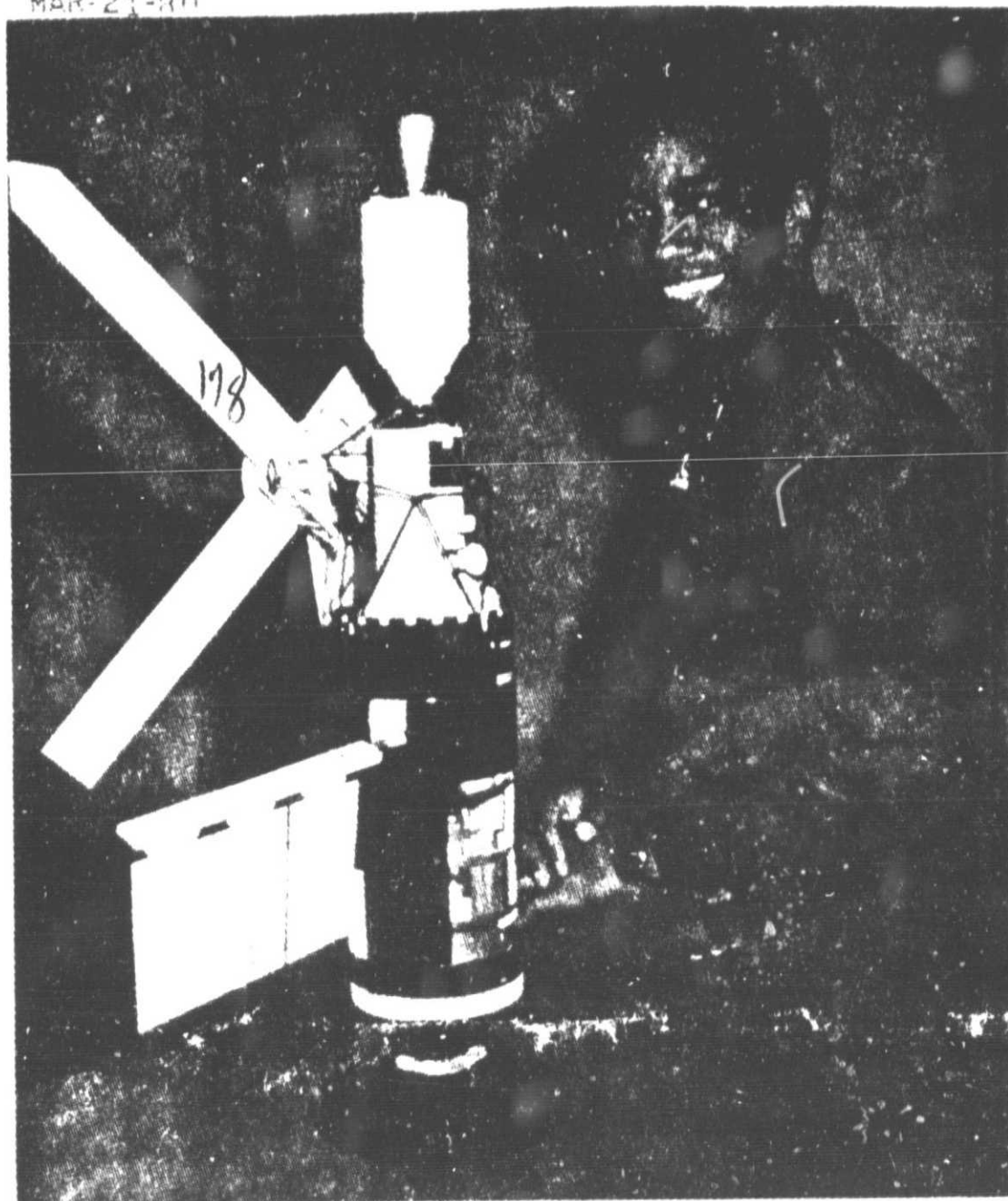
Dentzler Elementary School teacher Teri Metyk helps some of her pupils understand the workings of a turbo-prop engine displayed at the "Cleveland Space Odyssey." More than 10,000 Greater Cleveland students in grades 5-12 toured the exhibit.

THE OHIO NEWS
BUREAU COMPANY
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CHRONICLE-TELEGRAM
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MAR-21-80



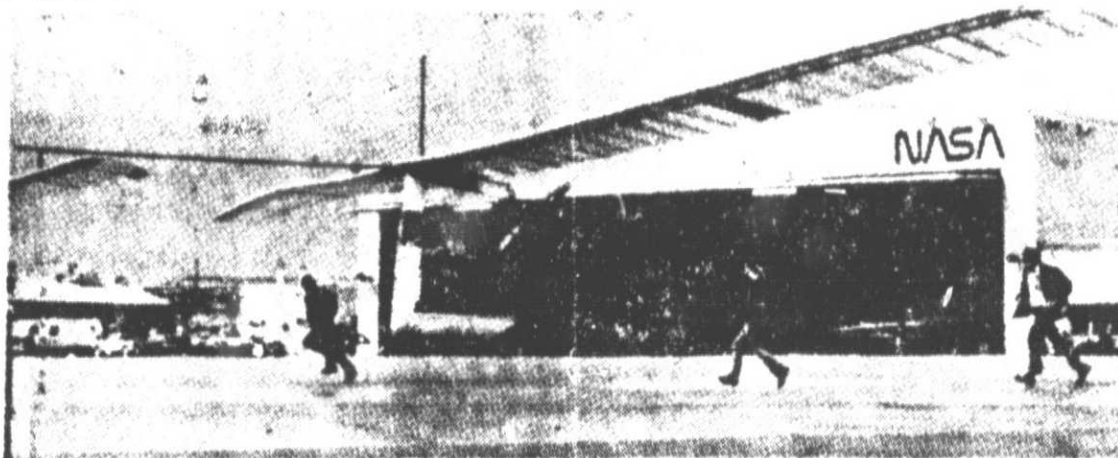
1980--a space odyssey

Astronaut Guion Bluford is visiting Cleveland this week as part of Cuyahoga Community College's "Cleveland Space Odyssey" program. Bluford, posing with a model of NASA's Skylab, spoke to school children Thursday at the college where moon rocks and

a space shuttle model were also on exhibit. The exhibit will be open to the public at the downtown college gymnasium Saturday and Sunday from 9 a.m. to 5 p.m. Another photo on B-1. (C-T photo by Dave Zapotosky.)

Press 3-20-80

PAGE A 18



ALBATROSS FLIES AGAIN — The Gossamer Albatross made its first motorized flight recently at NASA Dryden Research Center, Edwards Air Force Base, Calif. Installation of a small electric motor and battery was made to

relieve the human pilot of pedaling to keep the prop turning. The pedal system remains and will be used in NASA tests. Last year, the plane was flown across the English Channel on pedal power by Bryan Allen. (NASA photo)

Model aviation

Tri-C to hold 'space odyssey'

By CHARLES TRACY
Aviation Writer

You will be able to see a real rock flown all the way from the moon, study models of the space shuttle and Skylab, test your coordination on a training device used by the astronauts.

And there will be many other interesting and educational exhibits in the Cleveland Space Odyssey Saturday and Sunday at Cuyahoga Community College, Metropolitan Campus, 2900 Community College Ave., in downtown Cleveland. For more details call Dr. Hirendra Ghose, CCC Metro, 241-5966, Ext. 348.

The big show is free and everybody is invited. Hours are 9 a.m. to 5 p.m. both days.

It will be a good opportunity to see the particularly fine facilities Tri-C has for teaching science to junior college students.

Cop-sponsors of the space show are Cuyahoga Community College, the National Aeronautics and Space Administration, Lewis Research Center and Cleveland Public Schools. Space Odyssey will take visitors on a voyage through the latest technology

via a collection of scientific exhibits designed by NASA engineers.

The show also will be supplementing classroom learning for more than 10,000 Greater Cleveland youngsters from the 5th through 12th grades. Many of these youngsters began visiting the displays Monday and yesterday. They learned about space exploration and career opportunities in this fascinating field through special lectures and demonstrations by CCC professors and NASA experts.

Many teachers also are updating their space knowledge through evening workshops at the show.

As a remembrance of their trip through the Odyssey, each youngster has a souvenir photo taken at the exhibit. . . .

Indoor flying for prizes is scheduled Sunday by the Erie (Pa.) Model Airplane Assn. at Edinboro, Pa., State College Fieldhouse. Ceiling is 32 feet. Events are for hand-launched gliders, EZ-Bee, Pennyplane, Peanut scale, FAC Rubber scale and cabin tissue. Details from Vic Didelot, area code 814 838-3263.

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MAR-22-80

178 MARCH 17-23 -- Cleveland Space Odyssey, an aerospace educational exploration complete with NASA exhibits, lectures and demonstrations, for Cleveland and suburban schools from sixth through 12th grades, jointly sponsored by CCC, NASA and the Cleveland Public Schools, at Metropolitan Campus. Exhibits from NASA open to public, free of charge, March 22 - 23 from 9 a.m. to 5 p.m. For information, call 241-5966, ext. 348

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MAR- 8-80

Space Odyssey Comes To CCC

178 More than 10,000 students and teachers are expected to take an educational voyage through the "Cleveland Space Odyssey"

March 17-21 at Cuyahoga Community College's Metropolitan Campus, 2900 Community College Ave., downtown. The event, which is sponsored by CCC, the National Aeronautics and Space Administration (NASA) and the Cleveland Public Schools, also will be open to the public Saturday and Sunday, March 22, 23 from 9 a.m. - 5 p.m., free of charge.

According to Dr. Hiren-dra Ghose, of the Physical Science Department at CCC Metro and program director of the Space Odyssey, "The week-long event is designed to give Cleveland area residents an opportunity to learn more about aerospace science and technology and its application in their daily lives."

Participants in the Space Odyssey can explore more than 15 exhibits including the moon rock, space shuttle, lunar geology display

For further information about Cleveland Space Odyssey, call CCC Metro at 241-5966, ext. 348, 349 or 350



THE WONDERS OF SPACE are explored by these area youngsters at the Cleveland Space Odyssey, held recently at Cuyahoga Community College's Metropolitan Campus, downtown. The Odyssey, co-sponsored by CCC, NASA and the Cleveland Public Schools, offered nearly 10,000 area youngsters the opportunity to explore space technology in a down-to-earth way.

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'Cleveland Space Odyssey'

CLEVELAND — A piece of the moon is here at Cuyahoga Community College's Metropolitan Campus for "Cleveland Space Odyssey" beginning today.

Exhibits feature the moon rock, syllab, lunar geology and space shuttle.

The event is sponsored by TRW, the National Aeronautics and Space Administration (NASA) and Cleveland Public Schools. It will be open to students and teachers through the week, and to the public Saturday and Sunday from 9 a.m. to 5 p.m., free of charge. The Metro Campus is at 2900 Community College Ave.

NASA specialists and CCC faculty will also conduct a five-day evening workshop to acquaint teachers with space concepts and resources to use in teaching.

For more information about "Cleveland Space Odyssey", call CCC Metro at 241-5966, ext. 348, 349 or 350.

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CATHOLIC UNIVERSE
BULLETIN
CLEVELAND, O.
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BLESSED SACRAMENT SISTER Mary Grace Connell, seventh grade teacher at St. Adalbert School, got in the spirit of the recent Cleveland Space Odyssey at the Metropolitan Campus of Cuyahoga Community College by dressing in an astronaut's space outfit, ideal for moon walking. Co-sponsors of the show with CCC were NASA and the Cleveland Public Schools. Sister Mary Grace who took her class to the show is shown with a couple of Gesu pupils, Joseph Zoller, left, and John McPolin.

Tri-Campus



A WORLD OF EXPLORATION will be presented at the Space Odyssey, to be held at CCC Metro in March. Here, Dr. Hirendra Ghose, CCC, left and Harrison Allen, NASA, study one of the exhibits at NASA's Lewis Research Center.

Space Odyssey brings science down to earth

Well over 10,000 area students and teachers are expected to take an educational voyage through the Cleveland Space Odyssey at CCC's Metropolitan Campus, beginning Monday, March 17.

This joint venture between Cuyahoga Community College, National Aeronautics and Space Administration (NASA) and the Cleveland Public Schools is an aerospace educational exploration, complete with NASA exhibits, lectures and demonstrations.

According to the Project Director Dr. Hirendra Ghose, CCC's physics, chemistry and physical science department head at Metro Campus, "Youngsters ranging from the fifth grade through junior and senior high school will be coming from Cleveland and suburban public, private and parochial schools. They will have an opportunity to discover what NASA is all about, learn about space exploration and how we benefit from technology developed as part of the space program."

Astronauts, including Shannon Lucid and Guion Bluford, also will be on hand to assist NASA specialists in discussing job opportunities and answering questions related to the various exhibits such as Skylab, the moon rock, an Apollo suit mock-up, a space shuttle and a lunar geology display. The exhibits, which will be open to youngsters for a one-week period, also will be open to the public, free of charge, on Saturday and Sunday, March 22 and 23.

While students are attending one of the morning or afternoon three-hour sessions, teachers also will have an opportunity to join in the learning process at a special concentrated five-day workshop, which runs from 5-9 p.m. Professor Ghose says, "Teachers will gain valuable insight and exposure to space concepts and resources through NASA's specialists and CCC's faculty, which they can use to stimulate students' interest in studying space technology."

"Just from the Cleveland elementary schools alone, approximately 4,000 sixth graders will be coming to the Metro Campus," says Richard T. Cotispoti, directing supervisor of science, Cleveland Public School System. "A rather large number of our faculty will be attending the special teachers workshop because it is a practical way to update their knowledge in such a short span of time."

"We've worked with NASA on other projects but this is our first co-op project with CCC. The Cleveland Space Odyssey is the result of three institutions coming together and doing what then do best," emphasizes Cotispoti.

"Many of our future scientists and engineers will emerge from among these students participating in the Space Odyssey," says Harrison Allen Jr., chief of the Public Service Office, part of NASA's Technology Utilization and Public Affairs Directorate. "The task of mapping out this country's future space explorations will become the responsibility of our youth, especially in the Cleveland area."

"Our job is to motivate and encourage them to take on these new goals, make decisions and set new missions," explains Allen.

CCC's involvement with NASA specialists dates back at least five years, says Professor Ghose. "During that time seven or eight of their specialists have been teaching physics part-time for Metro Campus' Science Department."

"We have been privileged and fortunate in having had the benefit of their knowledge and experience through the years and in this new joint effort."

But there's more to the Space Odyssey itself. Actually, this event constitutes Phase I of a three-part long-range cooperative program between NASA and CCC.

"This joint effort is the first phase of a long-term science curriculum development and enhancement program of the college," says Dr.

William Kennedy, CCC's district project coordinator and director of Instructional Development and Student Assessment.

Phase II, the Curriculum and Instructional Development project, is expected to be in place by next fall. In this area experts from CCC and NASA will be working together to expand the college's science and technology curriculum in the areas of energy, bio-medical science and environmental health as well as in other areas where needs arise.

Phase III, the formation of the Cuyahoga County Development Consortium is expected to evolve from interest in the first two phases of the Space Odyssey program. This 30-member consortium, with an action committee of eight, will have representatives from CCC, area high schools, universities and colleges, industry and allied health fields. Their task will be to develop a multi-level, areawide coordination of curricula in science technology and the health fields.

The resulting programs will have coordinated requirements, sequences and direction, giving students a clearly defined course of study beginning as early high school and continuing through the undergraduate level.

High school students can begin at CCC in the college's Credit-In-Escrow program and then continue their studies after graduation as a means to employment or a foundation for further studies in applied or "pure" science, technology or applied health.

The Cleveland Space Odyssey program is an educational voyage which has the potential of being a springboard for an ongoing, countywide experience in science education at all levels. Says Dr. Kennedy, "CCC holds a unique pivotal position in the educational spectrum to be at the forefront of these efforts. Resources and the talents of the entire college will be tapped to realize the full potential of this three-phase program."

Appendix I

Publicity about Cleveland Space Odyssey Program

C-2

Publicity about Cleveland Space Odyssey Program

The event was a success and was well represented in the media. This is directly attributable to the cooperation and hard work put forth by all the people and organizations involved. Listed below is a brief run-down of the coverage which the Space Odyssey received:

Newspaper

- 3-19-80 Charles Tracy, Cleveland Press aviation editor, wrote a nice feature which appeared in all editions and in some with a photo
- 3-21-80 The Elyria Chronicle Telegram ran two large photos - one in color on the front page and another inside
- 3-27-80 Edith Starzyk of the Parma Sun Post ran a huge feature with two large photos of children engrossed in the exhibits

Radio

Dr. Hirendra Ghose was interviewed on the following radio stations:

- 3-9-80 WABQ, Interviewed by Larry Simpson on "Community Perspectives", ½ hour
- 3-12-80 WWWE, Interviewed by Joe Callahan, brief call-in spot
- 3-12-80 WJMO, Interviewed by Ken Robinson, brief call-in spot
- 3-13-80 WHK, Interviewed by Marv Boone, brief call-in spot
- 3-17-80 WJW, "Socially and Culturally," hosted by Lynn Charles, ½ hour
- 3-20-80 WGAR, brief call-in spot
- 3-20-80 WJMO, Astronaut Guion Bluford was interviewed, brief call-in spot
- 3-22-80 WERE, Ken Prewitt Show, Dr. Ghose and Harrison Allen were interviewed for 45 minutes

Television

- 3-10-80 WUAB-TV, Channel 43, ran information regarding
 thru the event on the community bulletin board on its
3-14-80 "A.M. 43" program
- 3-17-80 WEWS-TV, Channel 5, news team covered first day of
 the Odyssey -- segments ran on 6 and 11 p.m. newscasts
- 3-20-80 WEWS-TV, Channel 5, Astronaut Guion Bluford appeared
 on a 15-minute segment of the "Afternoon Exchange"
- 3-20-80 WVIZ-TV, Channel 25, sent a crew to tape a 15-minute
 segment of "Black Perspective Cleveland" hosted by
 Barbara Caffey with Astronaut Guion Bluford; the
 program was aired on 3-24-80

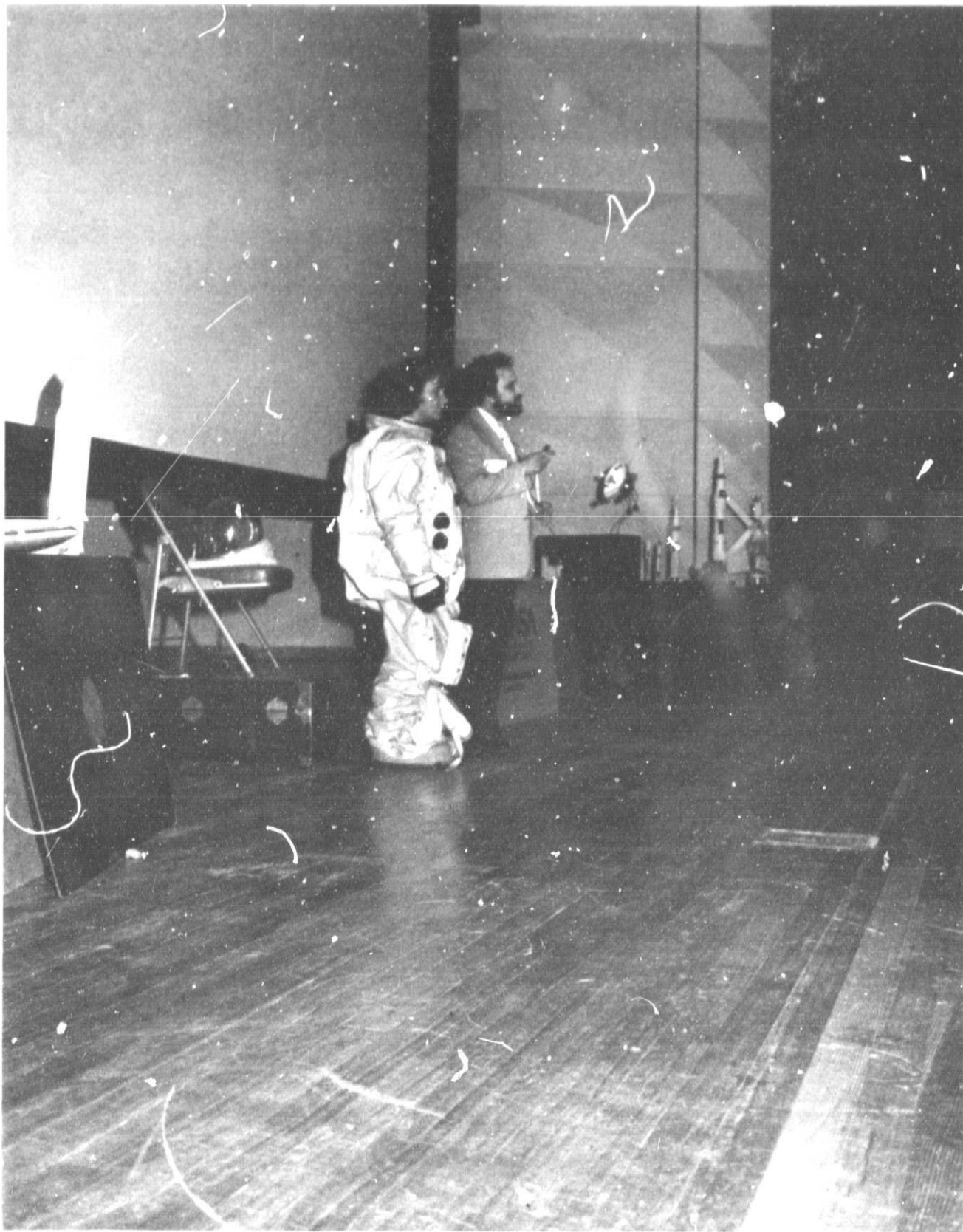
Appendix J

Photographs of Cleveland Space Odyssey Program

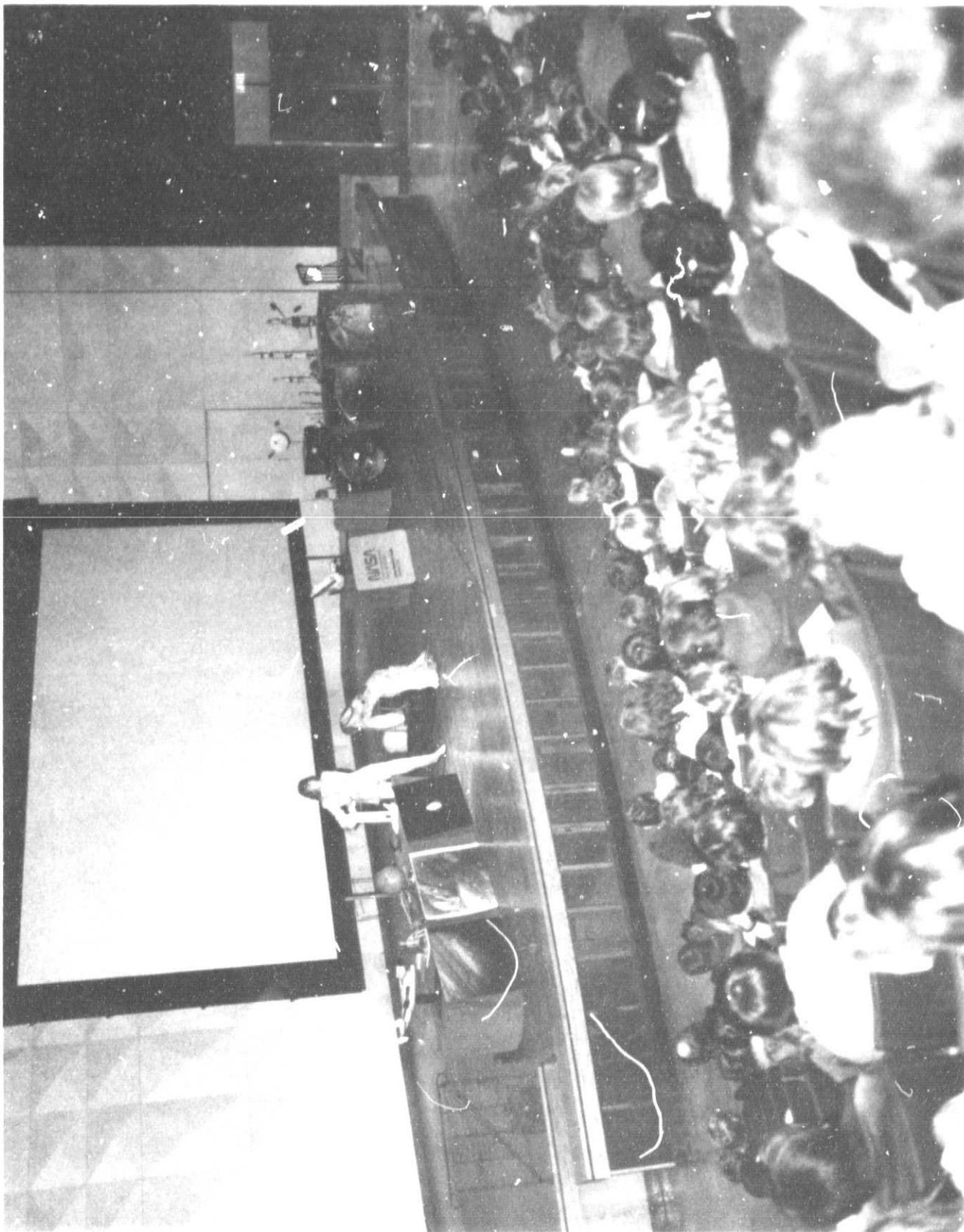


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National Aeronautics
Space Administration

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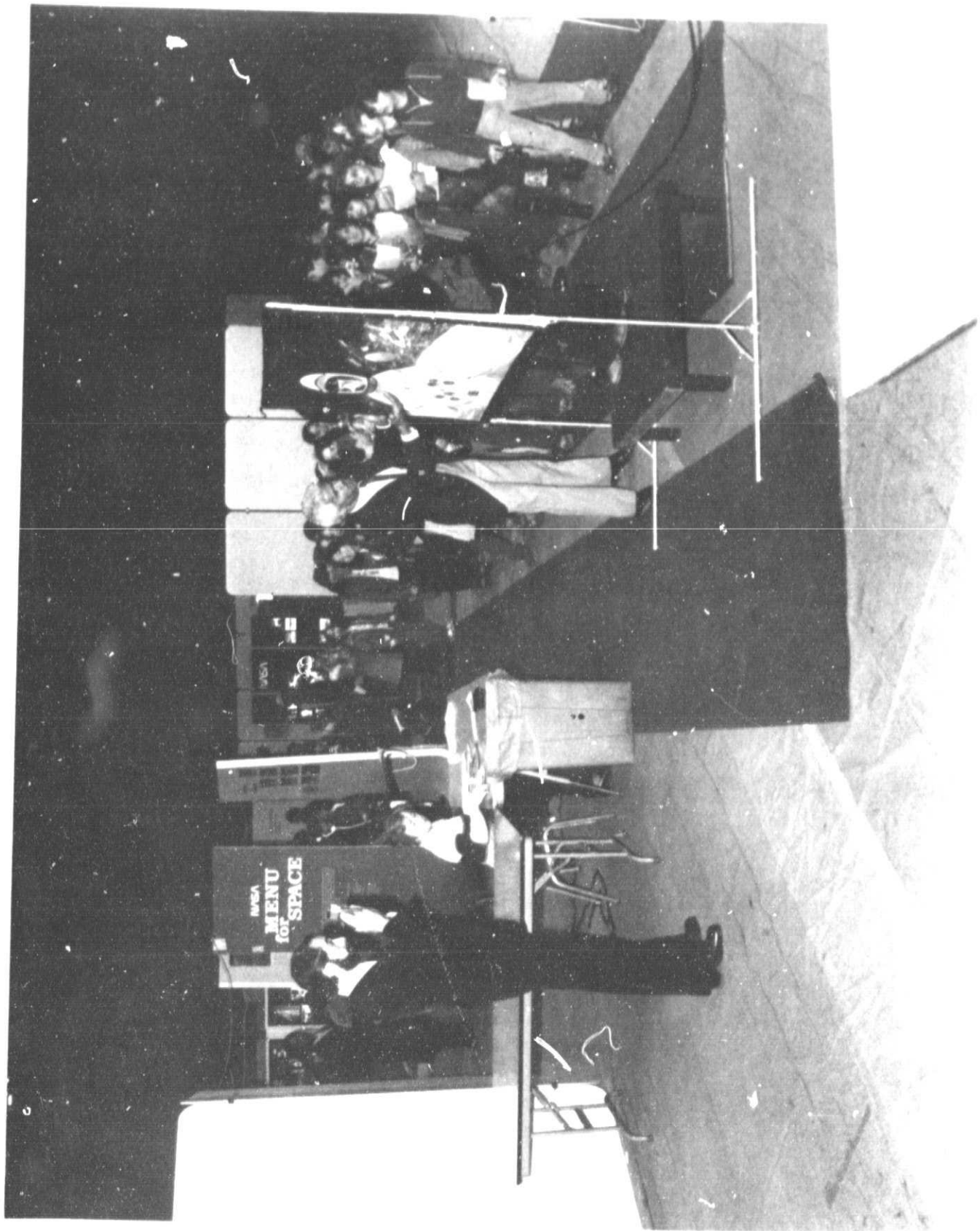
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Appendix K

Letters from Students and Teachers Expressing Their Reactions
to the Cleveland Space Odyssey Program

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April 14, 1980

Dear Science Department,

Please forward these thank you
notes my students wrote to N.A.S.A.
He certainly had an enjoyable educational
experience that day at Tusahoga Community
College.

Thank you so much for inviting us
and also for sending our notes to
N.A.S.A.

Sincerely,

Mrs. Loren Grims
5-6 grade Major Work
teacher

Oliver Hazard Perry School

Case School
4050 Superior
Cleveland, Ohio 44103

Dear Mr. Allen,

I enjoyed the trip to the Nasa "Space
Odyssey" at Cuyahoga Community College
Metro campus.

It was very exciting to see the lady
astronaut, the projects, the movie, and a lot
of other things and it was very education-
al. I hope I could come again.

Thank You

Sincerely,
Carol Yu

Almira School
3380 West 98 Street
Cleveland Ohio 44102

Dear Mrs. Pae

Thank you for the trip to Cuyahoga
Community College for the NASA demonstr-
ation. The big rockets and the small rockets I
liked it very much. The pictures I liked to.
The space suit was nice. I liked all of the buttons.
The film I liked the most. The three classes were
very interesting

Sincerely
David
Daniels

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Oliver Hazard Perry
18400 Edenely Avenue
Cleveland, Ohio 44119
March 21, 1980



Dear N.A.S. To

I am writing to you to thank you for the trip. It was a very exciting trip and I enjoyed it. I learned a lot of new things such as, it came to be in 1958, and how much money it takes just to build a small rocket. It was an educational experience and I had a lot of fun. I got to see and do a lot of different things. I learned how different people have to check to see if the rocket is fit to go up into space.

I also learned how the people that work there make things for the future. I think it's very important for people to do that because it makes life a little better and easier. I enjoyed seeing a real live astronaut.

I would also like to thank you for the pictures that you took of us. I know that all that film must have cost a lot of money. I would like to thank you most of all for even inviting us because you took the time to show us around and have an astronaut come out here. You must have gone through a lot of trouble.

To end my letter I would like to say that I had a great time and hope to come back again.



N. A. S. A ♀

Sincerely,
Jennifer O'Neal

Case School
Cleveland Ohio 44103
March 25, 1980

Dear Mr. Allen,

We would like to thank you
for inviting us to the space
exhibit. It was a nice trip.

S. Hanmon, the lady astronaut,
taught me a lot about rockets
and how the space shuttle works.
Please tell her I said thank
you very, very, much.

Thank you,
Kelly Cangemi

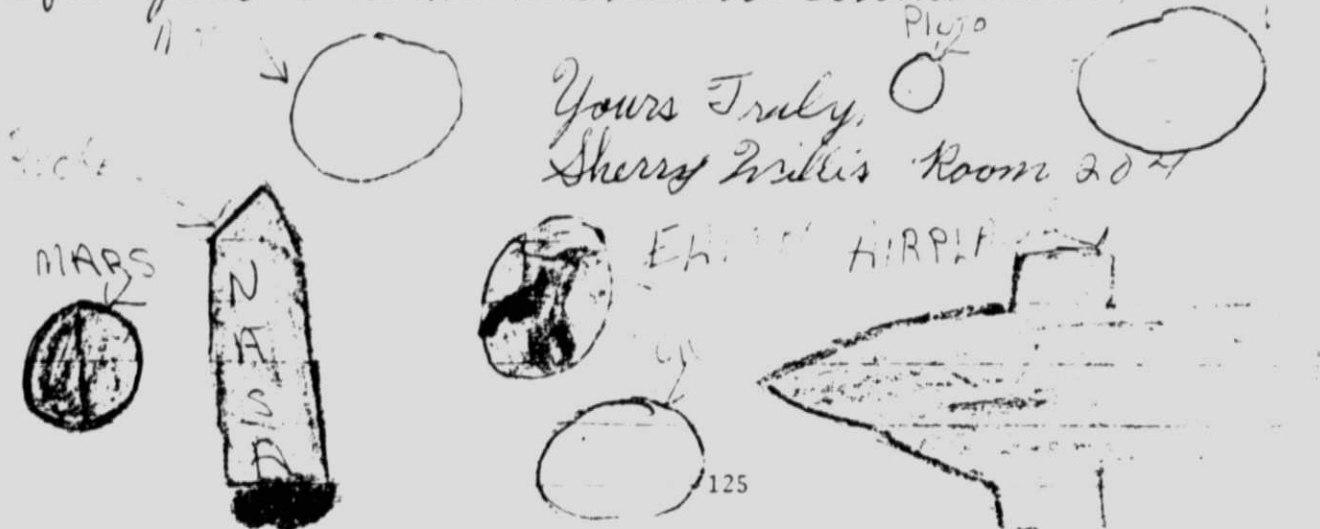
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O. H. Perry
18400 Sheneley Avenue
Cleveland, Ohio
March 25, 1980

Dear N. A. S. A.,

I thank you for the trip. It was a very interesting trip. I was about to faint when you said that a computer would drive the airplane in the future. Saturn five is a long spaceship. Can Saturn five blowup when it is in space?

I thought it was curious when a man told us that you can use the lavatory in your space suit. How long does it take to make a spaceship? we found out that Saturn five can drop some of its pieces in the ocean while it is in space and the last part of it finishes its mission and returns to earth.



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Almira School
3380 West 98 Street
Cleveland, Ohio 44102
March 24, 1980

Dear Mrs. Pae,

Hello, my name is Melissa Martin and I would like to thank you for inviting the sixth graders at Almira School to Cuyahoga Community College. Though we are not one of the title schools, it was very kind of you to invite us and take your time to spend with us.

I don't know about the other children at Almira School but it was my first opportunity to ever be in a College before. I enjoyed myself very much. Although I knew some of the things you told us, I learned very much too.

Sincerely yours,
Melissa Martin 309

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Oliver Hazard Perry
18400 Schenely Avenue
Cleveland, Ohio 44103
March 25, 1980

Dear N.A.S.A.,

Thank you very much for letting
our class come to your expedition at the Cuyahoga
Community College campus. It was very interesting.
I think your astronaut answered our questions
very intelligently, and clearly. Your moon rocks
looked very interesting. Tell your astronaut he did
a magnificent job. Your models of the "space
shuttle, and "Apollo 2" were very well built

Thanks again,



Sincerely,
Garnetta Burton
Room 204
Oliver H. Perry School

ORIGINAL PAGE 13
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O. H. Perry School
18400 Schenck Ave.
Cleveland, Ohio 44119
March 21, 1980

Dear N. A. S. A.,

Thank you for giving us the program. I really enjoyed it, especially the display and the first lecture. The part about the airplanes was interesting, most of that stuff I didn't know, like about systems and there are two impacts when a plane crashes. I didn't really know what a satellite does or what it looks like, either.

I have been to Cuyahoga Community College before for a play but this was better.

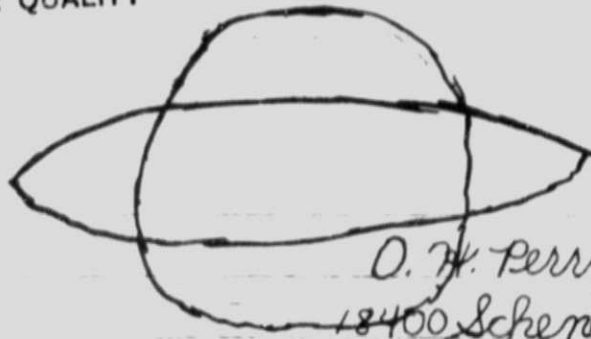
The best parts of the display were the big picture of Skylab and the moon rocks.

Again I thank you for the N. A. S. A. program.

Sincerely yours,
Teresa Lascio
O. H. Perry School
Rm. 204

NASA

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O. H. Perry School
18400 Schenely Avenue
Cleveland, Ohio 44109
March 21, 1980



Dear N.A.S.A.,

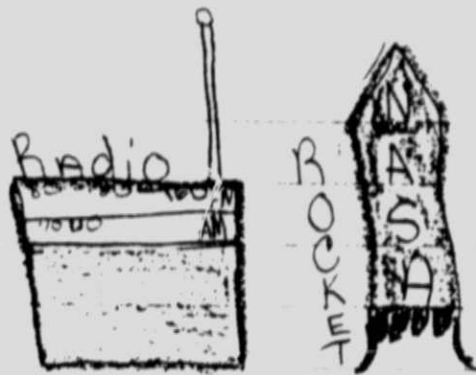
I thank you for a wonderful time. I enjoyed everything that happened. The most exciting part was showing the airplanes and spaceships. It was funny when you put that girl in the spacesuit. The astronaut was very smart to take that kind of a job.

I found out a lot of information from the film trip that will be very helpful to me if I wanted to become an astronaut. The man who was talking about the silver blanket and the pacemaker was very exciting.

Where we were going to get our pictures taken they had a lot of things on display. The pictures were very funny and strange. Thank the photographer for using his film for us.

Thank you again for an exciting time.

Your friend,
Sean Cox



O.H. Perry
18400 Schenely Ave.
Cleveland, Ohio 44119
March 25, 1980

Dear N. R. S. R.,

Thank you for the tour.
I enjoyed the pictures. I liked when the
girl named Kim put on the astronaut
suit, and Greg said that there was a
tube in case you had to use the lava-
tory. I liked the slides, and the Saturn
V model rocket. I learned a lot about
N. R. S. R. that I didn't know about you.

I wish I was grown up so I could
work at N. R. S. R. Cuyahoga Community
College has nice buildings. I think I want
to go to CCC when I grow up.



The N.Y.

Sincerely,
Kimberly
Pritchett

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O. H. Terry School
18400 Schendly, Ave.
Cleveland, Ohio 44119
March 25, 1980 *

Dear N. A. S. A.,

Thank you, for taking your time with our school.

We really enjoyed ourselves. I thought it was really interesting when the host was ~~it~~ talking about the rocket and how they break into pieces. The other schools and O. H. Terry I thought they asked very nice questions when the astronaut was there.

When we went in the second room I thought the host gave good information about the hip joint and that thing for your heart, and the jacket.

The lady and man gave good answers when people asked nice questions. They showed nice pictures.

Thank you for the bags

Sincerely,
La Shon Wilson



Tracy Curtis
Charles Orr School
Cleveland, Ohio
March 18, 1985

Dear N.A.S.A. I really want to
thank you for allowing our class
to visit the N.A.S.A. exhibit. It
was a great experience, and we
had a very wonderful time.
We saw very
interesting things at the exhibit,
and the little booklets were
interesting. At the slide show
we learned a lot about solar
energy, they even had some
demonstrations. We had our pictures
taken, and we had a lot of fun.
It was very educational, and
I want to thank you again
for letting me go.

Sincerely,

Tracy Curtis
Room 115
Grade 6
Charles Orr School

March 19, 1980

NASA
Brookpark, Ohio.

Gentlemen:

I would like to thank you for the wonderful site and the performance that you had at Sri-C for the Space Odyssey. For instance the film you showed and how the man explained it very clearly to us. Next the exhibits in the gym were very nice and had all the information I needed. The performance in the auditorium the man gave about airplanes was very interesting. The astronaut suit the girl wore was very funny, and the parts of the suit were very convenient.

Sincerely, J
Tracy Clark
E. B. De laury School

ORIGINAL PAGE 19
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E. de Saunze
Cleveland, Ohio
March 20, 1980

NASA
Lewis Research Center
Cleveland, Ohio

Gentlemen:

I would just like to say thank you for everything. I really enjoyed the films, the pictures that were on the walls, and the pictures they took. I especially liked the show that went on in the auditorium.

I would like to thank you also for making it possible for our school and many others to come.

One day I would like to go to the moon but until then I think I'll be a divorce lawyer. Thank you very much.

Sincerely yours,
Tracy Richburg